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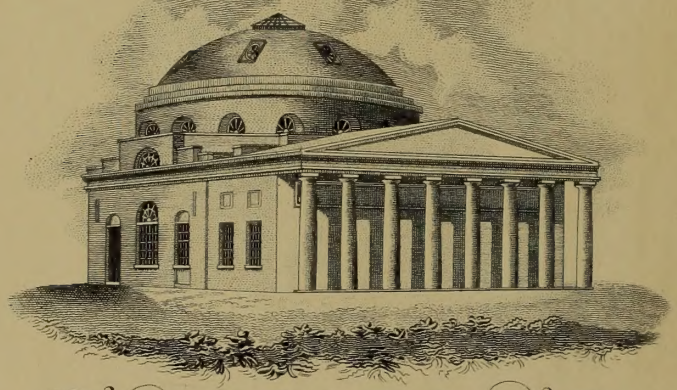

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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UNIVERSITY OF MARYLAND

THESES

1883, 1889

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Bell, C.D.	Malformations and Diseases of the Rectum and Anus	1883[1]	~~(end page, no title page)~~
Benson, Samuel L.	Opium	1883	
Crombie, John B.	Cinchona and Its Alkaloids	1883	(no title page)
Ivey, William P.	Respiration	1883	
Harris, J. E.	Abortion	1889	(no title page)
Cooke, Charles A.	Bright's Disease	1883	
Oliveros, Bartolo P.	Chorea and Its Treatment	1883	(no title page)
Twigg, W. Franklin	Diphtheria	1883	(noteworthy calligraphy on title page)
Couch, G. H Miller	Scarlatina	1883	(no title page)
Mace, V.	Scarlatina	1883	
Holstein, John W.	Simple Intermittent Fever	1883	

[1] Author, title information on last page.

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

Author	Title	Year	Notes
Wimer, T.M.	Dysentery [2]	1883	~~(end page, no title page)~~
Gorgas, Laurence De. L.	Dislocation [3]	1883	(bound out of order)[3]
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Julian, Abner J. P.	Report of Prof. Chew's Lecture on Iodine	1883	
Sands, Robert M.	Educated Nurses	1883	(no title page)
Gibson, J. G.	Etiology of Malarial Fever	1883	(no title page)
Littleton, James C.	Diphtheria	1883	
Bond, Summerfield B.	Blood-Letting	1883	(no title page)

[2] Author, title information on last page.

[3] Pages 24-47 appear before title page. Pages 12-23 appear in 1883 (b); Benton, J. p.19.

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

1883, 1889

Hedges, ~~H.~~ Harry S.	Embolism	15p.
Bell, C. D.	Malformations and Diseases Of the Rectum and Anus	26p.
Benson, ~~S.~~ Samuel L.	Opium	40p.
Crombie, ~~J.~~ John B.	Cinchona and Its Alkaloids	19p.
Ivey, ~~W.~~ William P.	Respiration	32p.
Harris, J. E.	Abortion	10p. (1889)
Cooke, ~~C.~~ Charles A.	Bright's Disease[1]	30p.
Oliveros, ~~B.~~ Bartolo P.	Chorea and Its Treatment	35p.
Twigg, W. ~~F.~~ Franklin	Diphtheria	38p.
~~Cough~~ Couch, G. ~~M.~~ Miller	Scarlatina	22p.
Mace, V.	Scarlatina	29p.
Holstein, ~~J.~~ John W.	Simple Intermittent Fever	15p.
Wimer, T. M.	Dysentery	47p.
Gorgas, ~~L.~~ Laurence De. L.	Dislocation[2]	11p.
~~Anonymous~~ Author Unknown	Typhoid Fever	19p.
Julian, ~~A.~~ Abner J. P.	Report of Prof. Chew's Lecture on Iodine	15p.
Sands, ~~R.~~ Robert M.	Educated Nurses	30p.
Gibson, ~~F. M.~~ J.G.	Etiology of Malarial Fever	7p.
Littleton, ~~J.~~ James C.	Diphtheria[3]	20p.
Bond, ~~S.~~ Summerfield B.	Blood-Letting[4]	14p.

1- Faded text

2- Pages out of order. 24-47 appear before title. 12-23 appear in 1883(b)

3 and 4 - Legal paper, folded at bottom

Thesis
on
Embolism
by
Harry S Hedges

University of Maryland
Baltimore Md
Feb 12th 1883

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OF MEDICINE

Gentleman,

It is with pleasure that I submit for your examination and consideration a Thesis on Embolism.

Definition -

The obstruction of a blood vessel by any body <u>emboles</u> a <u>plug</u> - detached from the interior of the heart, a thrombus or some vessel and borne along in the current of the circulation to the point of obstruction.

Causes -

The most frequent sources of emboli are from thrombi, which begin to soften and the circulation breaks off portions of them and carry them along to some distant vessel where they become arrested

thus, constituting embolism, A thrombus gives rise to it in various ways, It may soften as mentioned above, and break down and its fragments become distributed by the blood current, It is especially venous thrombi which give rise to embolism, the veins of the leg the iliac, the hypogastric and jugular veins being amongst the most common sources -

Emboli from cardiac thrombi are also exceedingly common, whilst those from the arterial are the least frequent In embolism originating from a thrombus some sudden movement or exertion of the body determines the separation of the embolus

Emboli may originate also independently of thrombi, Vegetation and calcareous or atheromatious masses seperated from the valves of the heart, or from the inner surface of the arteries; portions of new growth as carcinoma which having perforated the vessels have been carried away by the current, parasites which have made their way into the interior of vessels fluid fat which has escaped from the fat cells and entered ruptured blood vessels such as occasionally occurs in fractures of bones &c etc,

Pigment granules and other substances may all constitute emboli

The exciting causes are violent exercise, straining at stools, sudden change of position and coughing

Pathological Anatomy.

If the embolus is a detached peice of thrombus, it takes the characteristics of the thrombus which is made up of fibrin of the blood with corpuscles entangled in it's meshes.

An embolus derived from a thrombus will have the appearance belonging to the age and condition of the latter. The vessel in which it is lodged will be damaged at the point of lodgement, but in front

and behind the embulis will be healthy.

The vessel may be completely or only partially obstructed. If complete the coagulation will ensue behind the point of obstruction forming a thrombus. If partially successive depositions of coagulum will occur. The bifurcations of arteries is the usual point at which an embolus lodges. Its effects are not limited to the point of lodgement include the whole area nourished by the vessel and the viscera supplied by the branches remaining permeable. The part receiving blood through the obstructed vessels

at once become anaemic, but the neighbouring district is the seat of an active hyperaemia which is designated collateral hyperaemia

One result of the increased pressure in this hyperaemia area is the rupture of small or large vessels and extravasations of blood.

If the vessels obstructed is small and not terminal artery, the anastomoses may be sufficient to supply the anaemic district.

If however the compensatory circulation is insufficient or absent the ischaemic part dies, — undergoes necrobiosis gangrene or necrosis

The consequences following must

of the circulation by an embolus depends largely on the position, still more on the size of the obstructed vessel.

Dry gangrene is produced by embolic blocking of a vessel of an extremity. In internal organs especially the brain, cystic softening and fatty transformation of the tissue elements and haemorrhagic extravasations in the area of collateral hyperaemia, are results of embolism. Besides haemorrhagic extravasations, infarctions occur in the parenchyma of those organs supplied with conus terminal arteries.

Symptoms.

The position of an embolus exercises a most important influence on the symptoms caused by it

The symptoms of an embolus comes on suddenly with a shock. Two classes of symptoms arise, Affections of nutrition from the simplest disorder up to gangrene and functional disturbances proper to the organ affected. These symptoms are ascertained with same facility in all situations

In the extremities any step in the local process is easily followed and interpreted but in inte

-nal embolisms only three symptoms
due to perversion or suspension
of function are recognizable,

Embolic obstructions of a
member is announced by a sudden
and often intense pain, and a chill
with numbness, loss or diminution
of tactile sense, coldness, pallor
of the skin and a feeling of
-dedness and weight, and paraly
-sis of the muscles, the pulsations
wanting below, while above the
obstruction they are full and strong

If embolic blocking of a
vein in the brain, there occurs
defect of speech, hemiplegia & etc,
if of a pulmonary artery,

sudden difficulty of breathing and sense of oppression with it - may be intense oppression and anxiety and death.

Sudden attacks of amaurosis in puerperal fever, and acute Rheumatism, and pyaemia are usually due to embolism of the central artery of the retina.

Those organs not well supplied with nerves, as the liver, kidneys and mucous membranes do not offer distinct reaction on embolic blocking of their blood-vessels, and hence the symptoms are obscure.

If the immediate danger of an embolic obstruction is past

even if the symptoms are very formidable, provided terminal arteries are not obstructed. they may disappear in some hours or days. by establishing a collateral circulation

Diagnosis.

1st " depends upon a knowledge of the source of the embolus, 2nd " upon the proof of the dimenutions or the sudden entire disappearance of the thrombosis serving as a source. 3rd " Upon the appearance of atypical chills with or without enlargement of the spleen with complete remission of the fever 4th " Upon the sudden appearance

of a series of disturbances in the function of the organ which find embolism their full, if not also their exclusive explanations and which usually appear from the first, with all their intensity and either lead quickly to an unfavorable termination or quickly or slowly in their progress assumes a somewhat more favorable course.

Prognosis

Sudden death is very rare on the other hand, gradual recovery altogether the prognosis is favorable

Treatment

The object of treatment in early stages of embolism, is the re-establishment of the circulation within the district deprived of blood supply in order to prevent the changes incident to defective nutrition. - Bleeding, cathartics and any measure which weakens the heart action counteracts this object, and are, therefore contra-indicated. On the contary, it is often important to increase the strength of the hearts action by tonics remedies, a nutritious alimentations & alcoholics

If there be feebleness and irregularity of the hearts action, in

connection with valvular lesions and dilatation, digitalis is indicated. All forms of counter irritation are counter indicated. Cold applications to the heart are inappropriate. Warm applications may be useful. This plan of treatment is to be pursued for several days until it be determined whether or not the patient escapes local changes, which ensue if the circulation be not re-established in the affected district of the brain. If softening takes place, the object of the treatment relates to the general condition

of the system and to the hemiplegia.

The first of these objects embraces measures for improving and maintaining the nutrition of the body, namely tonics remidies, a good diet and an invigorating regimen

In cases of embolism of the heart will often furnish indications for treatment I am of the opinion that very little can be done in the way of treatment except relieving symptoms reducing fever and maintaining the patients strength.

Malformations and Diseases of the Rectum and Anus.—

I select this theme for my thesis because these affections are exceedingly common and although but few of them are dangerous to life they are remarkable for the extreme pain they are capable of producing.

For reasons not creditable to either patient or physician they receive less attention than other maladies and this is to be regretted for they are in general readily cured by a simple & promptly and certainly remediable by art.

Definitions.

The lowest part of the intestinal canal is called

the rectum. It occupies the cavity of the pelvis, being continuous with the sigmoid flexure of the colon above, and ending below at the anus. The rectum is about ten inches in length and is divided for convenience of description into three portions viz: the upper five to six inches in length covered outside by peritoneum: the middle about three inches long, usually dilated into an ovoid pouch, and the lower about an inch in length, which is constricted by the grasp of the sphincter muscle. Seen from the front the course of the rectum is nearly straight as its name implies, but in

profile it presents three well
marked curves. The upper, or
peritoneal portion, bends forward
over the brim of the pelvis and
then passes backwards so that
the second portion or pouch
occupies the lower part of the con-
cavity of the sacrum. The latter
then curves forward along the
coccyx below and finally turns
sharply backwards to end at the
anus. The walls of the rectum
consist mainly of strong mus-
cular fibres in two layers -
the outer running in the di-
rection of the length of the bowels,
whilst the inner layer encir-
cles it and toward the anus grows
thicker and stronger, so as to form

what is called the internal sphin-
cter. Invested with peritonium
externally, or its upper two thirds,
its longitudinal muscular fibres
are bare below. Within the bowels
its mucous membrane, which
seems too long for the other coats
and is consequently thrown into
transverse folds which tend
to obstruct the passage of instru-
ments through the cavity —
is attached to the internal or
circular muscular fibres
by a loose but strong layer
of fibrous tissue. This latter
is extensible, for in prolapse
the lower portion of the mucous
membrane is dragged away
from the muscular coat and

protrudes alone through the
orifice of the anus. The mucous
membrane of the rectum is
studded with numerous mu-
cous glands which furnish a
quantity of thick ropy mucus
for its lubrication and protection.
The necessity for this constant
and large supply of mucus
accounts for the size and
number of blood vessels, espe-
cially at the lower end of the gut.
In front the peritoneal portion
of the rectum is in relation,
in the male, with the bladder
and its bunch is closely con-
nected with the prostate and
urethra, in the female the rec-
tum is in relation with the

uterus above, and vagina below,
a fold of peritoneum separating
them. This latter relation is
important, for displacement
of the uterus may obstruct the
rectum.

Behind the rectum, throughout
its course, is in relation with
the bony wall of the pelvis.

The bowel if the rectum varies
in its capacity, it is increased
by overdistention from neglect
of the calls of nature. A small
tumor can be introduced
safely through the sphincter
and along the rectum even
beyond its upper limit; where
its diameter is less than in
the bowel, this measure has been

found useful in detecting disease, the rectum usually contains some fæces, but it is improperly regarded as a reservoir. Its function is to receive and expel fæcal matter, hence the increase of muscular fibres in its walls, and the provision of lubrication. Moderate distention of the rectum provokes the desire to expel its contents, and this naturally should not be habitually ignored. The nerves of the rectum and especially of the anus are very numerous, hence the explicit sensibility of these parts. Malformation of the Anus and Rectum. Although rare

in the experience of many individuals, the aggregate number of infants annually born with these deformities is large, and of this number a majority are relievable by the resources of [illegible]. Such cases very frequently pass unrecognized until too late for successful operations, and they are too often regarded as hopeless and allowed to die, when in fact, skilful surgery could save them. Of the almost endless variety of congenital malformations the following are the principal: A child may be born with partial closure or narrowings of the orifice of the anus, to such a degree that it will

hardly admit a probe, or in complete imperforation, there is often entire absence of any trace of an opening. The natural opening may be covered in by a film of skin. The latter is the most common of all these deformities. When the Anus is entirely wanting the rectum may lie just beneath the skin, so as to be reached at once by an incision, or it may terminate higher up, at a distance of half an inch to two inches, and remaining entirely out of reach, - and in a certain proportion of cases the rectum ends by a narrow opening into the bladder or vagina. Symptoms. - An infant with -

Occlusion of the rectum soon becomes fretful, refuses the breast, looks pinched, absence of stools, distention of abdomen, difficult breathing, peculiar cry, great restlessness and general distress, Colicky Pains, vomiting and Convulsions.-

Treatment.- Carefully scrutinize your patient in search of some possible Malformation. Pass your little finger well greased up its rectum to see if the passage is free. The object of an operation in the Malformation, should be, not only to give relief at the moment, but to secure the permanent use of the parts. If too high up to reach with

trocar, bring down the gut and fasten it to the margin of the new opening. When the bowels can not be reached and thus brought down, there is a possibility of relief by making an opening in the abdomen.

Painful Stitching of the Anus.- This distressing and often obstinate affection is in most instances the expression of local or general disorder of the system, but occasionally it arises from causes which are entirely local. It is usually worse at night. The anus often presents a water-soaked appearance with evidence of violence from scratching. Causes.- Derangement or failure of nerve force, the gouty diathesis,

high living with immoderate use of strong drinks - Tea, Coffee, tobacco, - over work, anxiety of mind, sedentary habits, piles, fistula, parasitic vegetable growth.

Treatment. - This depends upon the cause of the affection, which must be ascertained. In the sedentary and high livers exercise and abstinence are necessary remedies. In the gouty and Castive, the laxatives Salts of Magnesia and Soda, Colchicum. In the weak and nervous, Cod-liver Oil, arsenic, Quinine, Locally benzorated Zinc Mug - Sulphur Mug - and daily wash with soap and water, and apply alcohol to harden the Safts. —

Hemorrhoids.

Are the most common disease of this region. They are small rounded tumors, generally of a red or purplish color, which form just without or just within the orifice of the anus; hence the distinction into external and internal piles, they take their origin in over distended varicose blood-vessels, principally veins, Causes:- Hereditary tendency, neglect in attending to the calls of nature; Straining and sitting too long at study; Sedentary habits and high living; obstruction to veins circulation within abdomen. Symptoms.- An external

Piles is first recognized as a little painful excrescence at the margin of the anus, which may subside after a few days, leaving a shrivelled flap of integument, or it may go on to suppuration. Internal piles are liable to [illegible] at stools, are extruded during defecation, and drag down with them the mucous membrane to which they are attached. At first they go back into the rectum after stools but as they increase in size they will be obliged to be put them back. They may be very tender and engorged in consequence of elongation & strangulation by the sphincter muscle. Treatment. For external piles - rest and cold -

greasy applications to prevent friction. Goulards Cerate which is both sedative and astringent is very good. Poultices may be tried and incisions may be necessary. Internal piles. The safest and surest remedy is the application of a ligature to each tumor. Nitrate Acid has been recommended. but there is more or less danger following its application. Such as hemmorrhage.

Fissure of the Anus.

This is the name usually applied to a small ulcer, long and narrow in shape, situated just within the orifice of the Anus in a cleft between two

of the wrinkles into which the membrane lining is divided. This portion is so thrown by the constriction of the sphincter muscle. Its situation subjects it to constant irritation by increasing action of the bundles of fibres which compose the sphincter. This prevents it from healing. Symptoms.— Pain, Tearing sensation when at stools. Causes.— Straining to extrude a hard stool. Wounds. The presence of internal piles favor the occurrence of fissure. Treatment.— Any measures capable of arresting the action of the sphincter, or that portion that is in immediate contact

with the ulcer, Stretching the sphincter and fissure will sometimes insure a Cure. Ointments are sometimes used to lubricate the parts.

Ulcer of the Rectum.

In this disease the ulceration is situated higher up the bowel out of the reach of the sphincter muscle but usually within three or four inches of the Anus. Symptoms- Occurs mainly in middle life. Not much pain but generally enough to give rise to some uneasiness in the rectum. Desire to defecate which shows streaks of blood or pus. Diarrhoea. - Pain in the back and down the legs and

Thighs. Causes.— Abrasion from contact of hard faeces, foreign substance. Wounds or laceration. ~~Dysentery~~ Dysentery and local disease. Treatment.— Caustic— To alter the character of the ulcer and make it heal. Full dose of Castor Oil to clear out the bowels. Diet the patient on unskimmed milk. Make the Ext. Belladonna gr ii- acetate Lead gr ii- Acid Tannic gr iv. made up to a proper consistence with a little cocoa butter. This may be introduced up the rectum every night and allowed to dissolve there.

Stricture of the rectum. Its simple form (Stricture) of

the rectum is a rather rare disease.
It consist in a narrowing or constriction of the Calibre of the bowel. So as to obstruct the passage of its Contents. It is most always situated within three and a half or four inches from the opening of the Anus, and in great many Cases even nearer, and therefore in reach of the finger.
Symptoms.- A necessity for straining in order to extrude the Contents of the rectum even when of moderately soft consistence. Habitual presence of wind in intestines with frequent Colicky pains and more or less constant general distress.
Causes.- Previous ulceration, Untimed mechanical bruising. as by hardness.

faeces. Congenital malformation.
Treatment.- The bowels should be
opened moderately with laxatives.
The only method that promises a satis-
factory result is an operation by which
a complete linear division of the stric-
tured portion of the gut is effected in
the direction of its length, and dil-
atation during the healing of the
wound, with bougies. Must not
leave bougies in the rectum over
five or ten minutes. because of
the irritation they produce.
Fistula in Ano.-
After piles. fistula is the most common
disease of this region. It consists in the
presence of an unnatural track of the
nature of a hollow tubular ulcer.

with an outer opening near the anus and generally an inner opening which communicates with the rectum, at a point just within its orifice. The fistulous tract may be single and lie immediately beneath the integument, or its outer opening may be distant from the anus. — sometimes several inches, and the tract crooked or branched and communicating possibly with the cavities of sinuses & abscesses in which case there may be several external openings.

Fistula in ano very seldom gets well spontaneously. The tendency is to grow worse, besides the pain and annoyance which it causes the -

disease is damaging to the system by the wasting discharge which attends it.

Symptoms.- A sense of uneasiness. Itching, sometimes pain, discharge most always constant, offensive in odor. Escape of material from the bowels mixing with contents of the fistula.

Causes.- Abscess are most always the origin of fistula, these abscesses form near the lower end of the bowels

Treatment.- Constitutional. Surgical Operation, in which the fistulous track is incised throughout its entire length, and perfect cleanliness constitute the most important treatment.

Impaction of Faeces.

This condition occurs in old age in paralytics, and in women who through sedentary habits and neglect of the calls of Nature, have allowed the bowels of the rectum to become habitually overdistended and thus to lose its natural sensibility and finally its contractile power.

Symptoms:- Uneasiness in the lower bowel and desire to defecate, with inability to extrude the contents of the rectum sometimes diarrhoea.

Causes.- Deficiency of rectal mucus. Certain kinds of food seems to promote this condition.

Treatment.- Mild cathartics, Epsom

out the Contents of the bowels with strong spoon handle. Warm flax seed tea and Oil thrown up the rectum. Good food. aloetic dinner pill and daily injection of tepid water without door life.

Wounds and Contusion of the Anus and Rectum.-

These injuries are as various in their Character as to details as the Casualties which produce them. In some Cases necessarially Mortal. as where the vicious Cow impaled the Milk maid with her horn, Or of the Case where a Child sat down upon the leg of an upturned Stool. The most Common perhaps are punctures received

in squatting at stool in the dark or lacerates wounds from breaking of a Chamber utensil under the weight of the body.

Symptoms:- Shock, fainting from internal bleeding, pain pressure of foreign body, heat, swelling, discharge of pus.

Treatment:- Make the diagnosis then treat your patient. Stop bleeding by tying vessels, wash out debris with Syringe and tepid water, rest and mild cathartics to secure soft stools.

There are other diseases of the Rectum and Anus. Such as polypus, Falling of the bowel Cancer of the Rectum &c &c

but I have not time to write more on this subject at present.

C. Deems Bell.

Feb 6, 1883

Malformations and Diseases of The Rectum and Anus.

C. Deems Bell.

Feb 1863.

"Opium"

Opium stands at the head of the class of Narcotics, or we might say of Neurotics. In fact almost at the head of all medicines of the Mat. Medica. The great Sydenham said that if Opium were taken from the Mat. Med. he would have to give up the practice of medicine. This of course could not be said by a practitioner of the present day, since the discovery of Chloral and other medicines which are synergistic with Opium which may be used in many cases with equal benefit that

~~but~~ for all this, should Opium be stricken out, human suffering would lose one of its best friends. When we consider the aches and pains which have been relieved; the death bed scenes which have been stricken of their terrors! and the distress of mind which has been banished by this agent! we may well be thankful to nature, that she has produced such a balm for the benefit of her suffering creatures. Opium was known to the ancients. It was cultivated by the Greeks, for Homer

in his [illegible] speeches of it
as a garden plant. It was
also known to the Romans,
especially to the writers of
the of the first century. Pliny
and other contemporary writers
mention it. It found its way
into Western Europe, after the
Crusades, being one of the
benefits derived from those
fanatic pilgrimages. It is
obtained from the [illegible]
juice of the [illegible] cap-
sules of Papaver Somniferum.
Said juice being [illegible] from
the [illegible] incised fruit, [illegible]
ered by the air. Although most

hardened by either. The white
poppy is an annual plant,
with a round smooth leafy
glaucous stem, branching
slender, growing from two to
six feet in height, according
to situation. The leaves are
large. The flower is terminal,
large, and of a white silvery
gray color. The capsule is
of a rounded shape, and has
two to four cells or cham-
bers containing numerous [illegible]
minute white seeds, which
when ripe escape through
small openings in the stigma.
In the black poppy the flowers

though somewhat white are usually violet coloured, or red, while the seeds are of a brown or blackish colour. All parts of the poppy contain a white opaque narcotic juice. The virtues of the plant reside in the capsule. The seeds are destitute of narcotic properties, and are commonly used as food. The Romans employed them in preparation of various dainties. The young plants have been pulled up and used as potherbs by the Greeks. Poppy-oratis spoke of a plant [illegible]

is supposed to be identical with Pap. Somniferum, as being nutritious. The plant is cultivated in Indian Land Egypt and Asiatic Turkey. The process of preparing Opium from the poppy as practiced at the present day, is very nearly the same as that described by Dioscorides as being employed in his time, [illegible] ago. Incisions are made in the unripe capsule, a white juice [illegible], and forms upon the edges of the incisions, the plants

are left in this state, about twenty four hours, after which the juice is scraped off by means of large blunt knives, a portion of the epidermis is also removed and constitutes about 1/2 of the product. It is then placed in small earthen vessels, beaten up and when of proper consistence, wrapped in leaves and sent into market.

Commercial History.

Commerce is supplied with Opium from Anatolia, Persia, Egypt, and Hindo[illegible] [illegible] of the Turkish [illegible]

very little is brought to this country - much was formerly procured from upper Egypt, especially from the district of Thebes. The U. S. gets the most of her Opium from Turkey, is generally shipped from the port of Smyrna and comes in masses of irregular sizes - more or less flattened, covered with leaves and masses weighing from one to two lbs. There is also a poppy plant in the Southern U. S. but the Opium obtained from it is of an inferior quality,

was used to some extent during the late war.
Good Opium when chewed excites much [illegible] the lips and tongue may even blister the mouth.
Its color is reddish brown, is generally soft in the interior of the mass, but becomes hard when exposed to the air. It yields its virtues to water, alcohol, and diluted acids. Also [illegible] to a great extent, on account of the troubles in Turkey, as she is almost always at war.

lead, Copper, Zinc, mercury,
and Tinless solution, are in-
compatible with the preparation
of Opium. Notwithstand-
ing this, the metallic salts
are often given with it, and
the systemic effects of both
produced. In Opium poison-
ing if any portion of the
drug remains unobsorbed in
the stomach, an emetic must
be given. One of the best
is the Sulph Copper or in
the absence of this, powder-
ed mustard may be used.
If the narcosis is profound,
the stomach pump may be [illegible]

The action of Opium is antagonized, in a part of the sphere of its influence, by Belladonna. When given in lethal dose, dilates arterioles and veins, probably by paralyzing the controlling centre of these vessels, which lies in the Medulla Oblongata. Belladonna by contracting these vessels thus antagonizes the action of Opium. The best way to employ the agent is by hyperdermic injection about ½ of a gr. in a dose. Prof. Thew reports a very remarkable case, in which the use of Belladonna [illegible]

a doubt saved the life of the
patient. It seems that a child
six weeks old had been given
one tenth of a grain of morphia,
by mistake; profound coma
was produced, pupils were found
to be the size of a pin point,
pulse scarcely perceptible, he
gave the child some strong
coffee, teaspoonful at a time,
sent to his office and got
some Tr Belladonna, placed
ten m upon the child's tongue,
and, waited, & gave three
then five more, and followed
it up till he found
the pupils begin to enlarge

surface of the body turn red, and in fact all the indications of recovery, this went on until the child completely regained consciousness. This recovery [illegible] be ascribed solely to the timely use of Belladonna, as we think this the best form to use in treating children of a tender age.

Physiological Action

In treating of the physiological action atropia would be used hypodermically, while opium when given in small doses primarily acts as a stimulent, being followed by [illegible]

and orderly, the sequence of
points and the sense of
moral fitness are diminished.
This period of excitement may
be followed by drowsiness and
sleep, from which the patient
is very apt to awaken with
headache, confusion of mind
and constipation. In full
medicinal doses, the period
of excitement is very short;
the mucous membrane is
dry often have nausea, and
vomiting, confusion of idea
somnolence, followed by deep
sleep, pupil contracted, ma-
tenance pale, breathing [illegible],

hand, Ten grs - of morphia or
2 ℥ of Laudanum, has been
taken without producing
any serious effects. Physiolog-
ical sleep results from fatigue
of the brain cells, or as some
others state, from anaemia
of the brain - Therefore
when Opium is given in
ordinary doses as it produces
anaemia of the brain, thus
has the power of producing
Tranquil sleep, but when
given in large doses it
produces Temporary paresis
of the brain cells thus pro-
ducing a comatose state.

The patient may be aroused from this condition, but will relapse again at once. There seems to be a loss of muscular power, coordination being also lost. Delirium or convulsions may occur. It has a very peculiar action on the digestive organs, diminishes appetite as it prevents waste of tissue, while increases thirst, probably by lessening peristaltic action and thus preventing the stomach from rubbing its walls together, also by causing dryness of the mucous mem-

It does not lessen the secretion of urine, from a full dose the muscle of the bladder may be acted upon, so that a smaller amount of urine may be passed; but it is still secreted in increased amount thus it interferes with the excretion, but not with the secretion. In cases of this kind do not resort to the catheter, but wait.

On the skin acts as a Diaphoretic, may when morphia is used have itching of the surface. Morphia when given by, subdermically with often

produce nausia, but you can lessen this tendency by the administration of atropia, or bromide of potash in connection with it. One gr of atropia put to ℥i of Magendies solution is a good formula dose in 5-10 hypodirmically.

Effects of Opium eating- It produces great emaciation, tremulousness - skin sallow, mind being in a worse condition than the body. In speaking of Opium eating I cannot do better, than to quote from the writings of Thos. De Quincey, the great English Opium

ester - Especially as his description of its effects on the mind, in the first stage is somewhat different, from that given by the profession. His description of its action on the mind is thus expressed:- "Motions of the intellect as unvaried as the heavens! yet how all anxieties a halcyon calm, a tranquility, that seemed no product of inertia, but as if resulting from mighty and equal antagonisms - infinite activities infinite repose."

and again at the end of
his descriptions of the pleasures
of Opium, he thus writes: -
"O just subtle and mighty
Opium! that to the hearts of
rich and poor alike, for
the wounds that will never
heal, and for the pangs that
tempt the spirit to rebel, bring-
est an assuaging balm.
Eloquent Opium! that with
thy potent rhetoric, stealest
away the purposes of wrath
and to the guilty man for
one night giveest back the
hopes of his youth, and
hands washed pure from

blood and to the grand mass
a brief oblivion, for —
Wrongs unredressed,
And insults unavenged;
That summonest to the chambers
of dreams, for the trumps
of suffering innocence, false
witnesses, and confounded
perjury, and dost reverse
the sentences of unrighteous
judges; thou buildest up
the bosoms of darkness, out
of the fantastic imagery of
the brain cities and temples
beyond the art of Phidias
or Praxiteles, beyond the
splendor of Babylon and

Hexatompylos, and from an anarchy of dreaming sleep, collect into sunny light, the faces of long buried beauties, and beloved household countenances, cleansed from the dishonours of the grave, thou only givest them gifts to man, and thou hast the keys of Paradise. Oh just subtle and mighty Opium"! These thoughts must have been expressed while the author was slightly under the influence of the drug. But he doesn't stop here, as we read further on, we

come to his description of the pains of Opium - which is thus expressed:- "But now farewell a long farewell to happiness, winter or summer, farewell to smiles and laughter, farewell to peace of mind, farewell to hope, and to the blessed consolations of sleep; for more than three years, and a half I am summoned away from these, I am now arrived at an Iliad of woes"; for I have now to record the pains of Opium"

Thus we see that in small quantities, and at regular intervals it may cause an increase of intellectual power, and an Ecstatic state, which is devorced from all pain or sorrow or thought of either. Yet when the confirmed habet has been acquired, what a difference! The sparks of intellect lies a spent candle burns low in the socket, and though it gives forth, Ever and anon, flashes of light, grows dimmer, and dimmer, until its flickering rays die out, and nothing

remains but the ashes of
dispair and regret. When
we glance at the heights at-
tained by such intellects as
those of Coleridge De Quincey
and others, and to see them
thrown from them into such
abysses of forgetfulness and
misery all by the immoder-
ate use of Opium - we
may well pause, before
prescribing, lest we bring
our patients to the same
fate. Nature is full of agents
which mans wisdom or folly
may direct for good or evil,
and Opium may be said

to head the list of them.
When guided by wisdom it
brings peace, and repose, by
folly misery and despair.

"Therapeutics"

When we wish to produce
sleep as well as to stimulate,
Opium is unrivaled. In con-
troling intermittent, and re-
mittent fever it was formerly
used, and in certain conditions was a good agent.
When the paroxism is im-
pending, a full dose of
Opium or morphia will of-
ten prevent it, or if it don't
prevent the paroxism, will

abate or modify it; often used with Sulph. Quinia, to quiet the stomach, and prevent the restlessness, often produced by the latter. Is also of great value in continued fevers - Typhoid for example - in low muttering delerium, of this disease, small doses of Morphia say gr 1/32 every ten to fifteen minutes, watching the effects - again in perforation of the intestinal canal, to insure quiet and prevent peristaltic action, it is one of the best remedies to employ. May give gr 1/2 Morphia at a dose as the inflamations

of serous membranes, large doses may be given without producing any deleterious effects. It may be given in almost all inflamatory affections, for different purposes 1st to relieve pain, which will in itself develop inflamation 2nd to relieve the state of irritability, which is set up in the system, producing sleeplessness - 3rd which is the most direct method, to check waste arresting oxidation, and controling capillary dilatation, all of which make it of great

value in inflamations of all kinds - In the treatment of Pneumonia, especially in the first stage - it is of vast importance, in fact it would be hard to treat a case without it. The best mode of administering it, is in connection with Sulph. Quinia. In the advanced stage of Pneumonia it is a dangerous agent. In Spasmodic Asthma, which is neurotic in character, a hypodermic injection of Morphia is the best means of relieving the paroxism

Even in Asthma, from Emphysema, it may do good, but must be given in small doses, on account of dilated state of the heart. Taking up the affections of the abdomen, for which it is used we may begin with Peritonitis, for which it is the sheet anchor, may be employed in very large doses as we have an inflammation of a serous membrane. Dr Clarke records a case in which he administered 10 grs in twenty four hours, and on the following day 172 more

I must think with Prof. Chew that there must be some mistake or some deception practiced in this case, but setting aside such a remarkable case, it is found that very large doses are borne and required. Among other diseases of this portion of the body, which are greatly benefited by its use we may mention Dysentery, Cholera Morbus, Colic, Diarrhoea, and in fact all affections where pain is one of the symptoms. Its use in Uraemic

poisoning, was at one
time objected to, but within
the last few years
it has been found to be
of great efficacy, in the
convulsion or Epileptic
form, but is not employed
in the Comatose form.
Morphia in this affection
controuls the spasm, and
opens the channels of the
skin, so that the poison
may be eliminated. Opium
when given in small doses
does not produce cerebral
congestion and in Uraemia
the brain is not congested

It allays the excitability of the brain - In severe forms of Neuralgia of all means which may be employed or resorted to, the use of Morphia hyperdermically is the best. 1 ʒ of Magendie solution with gr 1 of atropia given in m 5 doses is the best mode of treatment, this gives us about 1/100 of a gr of Atropia and 1/6 gr of morphia at a dose. In renal calculus gall stones &c, there is no better agent than Opium in some of its forms,

and thus I might go on on and give many other affections, which would be benefited by this valuable substance but think sufficient member has been given to enable the reader to judge of what ailments may be relieved by the use of it. The principle preparation of Opium are Laudanum or Tr. Opii - the deod. Tr Opii Paregoric Pulvis Ipicac - Com. Acet. Opii and Morphian Sulphas.

Cinchona and Its Alkaloids.

Under the general name cinchona are included all the trees yielding quinia and its congeneric alkaloids.

The trees of the genus cinchona are found native of South America and occupy a belt of the eastern slope of the Andes from twenty to forty miles wide and extending from near the northern coast to near the southern boundary of Bolivia i.e. through about twenty degrees of latitude.

The trees are found at various

elevations seldom less than four thousand feet above the sea level. They grow in a red clay soil on the banks of mountain streams, flourishing most profifically in damp regions. The trees of the different species differ considerably in the size to which they grow, some being of great height others becoming scarcely more than shrubbs.

The name cinchona was given to the plant by Linnaeus in honor of the Countess of Cinchon, who is said by some to have introduced the drug into Europe, by others to have first de-

clared its virtues, having herself been treated for malarial poisoning with it by the Indians. Whichever of the above statements is true in regard to the naming of the drug, it is certain that its general introduction into Europe was due to the Jesuits.

Cinchona bark is brought to our market from the various Pacific ports of South America near the cinchona region, from the ports of the Carribbean Sea and from Para in Brazil. It is collected by people called Cascarilleros during the dry season. Sometimes the trees are cut down

and the bark removed from
the trunk and branches with
the back of an instrument, after a
longitudinal incision through
its entire thickness has been made.
At other times it is removed and
the tree left standing to die. The
bark thus stripped off is dried
in the sun and done up in pack
ages called seroons, covered with
a case of thick ox hide, lined
by a coarse cloth, woven out of
some kind of grass. Some few
years since it was feared that
the trees yielding the drug would
be utterly destroyed; but the great
extent of country in which they are

found precludes the idea.

The United States Pharmacopoeia recognizes all the barks of the genus cinchona containing two per cent of the alkaloids which yield crystallizable salts. Such barks are classified as pale, yellow, and red.

The pale bark is obtained from cinchona condaminea and cinchona micrantha; and is found in the markets in the forms of cylindrical pieces, varying in length from a few inches to a foot and a half, and from one or two lines in thickness to an inch, with epidermis adherent,

and mosses attached. The pale barks are chemically characterized by containing more cinchonia than quinia less of both than the yellow or red barks ~~and~~ and exceeding them in the amount of tannic and gallic acids.

Yellow bark is derived from cinchona calisaya and occurs in quills and flat pieces. The former have the epidermis adherent and vary in length from three or four inches to a foot and a half. The flat pieces have the epidermis detached. Yellow bark is characterized

chemically by containing a larger proportion of quinia than of cinchonia and but a small amount of the astringent acids.

Red bark is derived from cinchona succirubra and occurs in quills and flat pieces of a reddish-brown color with epidermis attached. The flat pieces are of considerable size as if obtained from the trunks of trees. The quills vary considerably in size. Red bark contains about equal quantities of quinia and cinchonia. H. cinchona barks contain numerous substances such as,

fatty matter, red and yellow coloring matters, starch, and the vegitable acids but their value is due to the alkaloids, quinia, quinidia, cinchonia, and cinchonidia, and the relative value of the varieties of bark is dependant on the relative amounts of these constituents.

Of the alkaloids cinchonia was the first discovered. Dr. Duncan of Edinburg seems to have made the first step in the direction of its separation. A Portuguese physician isolated the substance and gave to it the name cinchonine, but regarded it as a resin. Pelletier

Caventou, in 1820 demonstrated its alkaloid nature and discovered quinia a few years later.
The alkaloids are obtained by boiling the powered yellow bark in water acidulated with muriatic acid, soluble muriates being formed which are thrown down by lime. The precipitate is washed with distilled water and the alkaloids separated from insoluble impurities by digesting in boiling alcohol, which is afterward distilled off. The residue treated with sufficient distilled water, at the boiling point acidulated with sulphuric acid to dissolve. The solution is boiled

with animal charcoal, filtered and set aside to allow the quiniae sulphas to chrystallize. From the mother-liquor the other alkaloids are obtained by taking advantage of their different degrees of solubility.

Quinia and quinidia are isomeric, their formula being $C_{20}H_{24}N_2O_2$ and give an emerald-green color when treated with fresh chlorine-water and ammonia. Cinchona and cinchonidia have a common formula ($C_{20}H_{24}N_2O$) and give with the above test a white precipitate.

Upon the stomach cinchona and alkaloids acts like the simple bitters in moderate doses increasing the

apetite and stimulating digestion but in large doses they may produce nausea and vomiting. The preparations of cinchona are now chiefly used as tonics and with decided advantage in general debility, loss of apetite etc.

Quinia in small doses is a heart tonic and in large doses a sedative. It checks the ameboid movements of the white corpuscles of the blood and alters to some extent the peculiar oxygen carrying properties of the red corpuscles. Upon the temperature of the healthy adult quinia has no power, except to prevent normal rise when given before exercise or

reduce such rise when given immediately after such exercise, facts of no importance, except that the former indicates that it acts on temperature rather by lessening heat production than by increasing heat radiation; but in the febrile state large doses effect a temporary, often a considerable reduction which usually begins a few hours after taking the medicine and reaches its minimum in from six to twelve hours. Quinia is never used simply for its action on the heart.

As an anti-phlogistic the action of quinias upon the heart, blood, and temperature comes into play,

and such diseases as pneumonia, pleurisy, pericarditis, etc ~~and~~ may undoubtedly be aborted by large doses of it given in their earliest stage. In the above diseases when exudation has occurred quinia is serviceable only as a tonic or anti-pyretic. The same is true of its use in typhoid fever, pyphus, acute rheumatism, etc.

Quinia gives rise to peculiar brain symptoms such as blindness, deafness, headache, giddiness, and sense of fullness of the head, which is sometimes relieved by spontaneous epistaxis. It lessens reflex action by stimulating the inhibitory centre

of that function.

Even in small doses quinia sometimes gives rise to skin eruptions in the form of erythema, urticaria or herpes. Quinia is very diffusible and may be found in the sweat, milk, saliva, and pathological exudations but the greater part of it is eliminated by the kidneys and occasionally produces urinary irritation, resulting especially in the old in dysuria, renal congestion, and even hemorrhage.

Considerable discussion has been indulged in as to the action of quinia upon the uterus, but its very general use during pregnancy

certainly shows it to have no power as an abortifacient; but there are many obstetricians, who use it in normal labor, anticipating as a result of its use increased force and frequency of pains, diminished liability to post-partum hemorrhage, lessened lochial discharge and severity of after pains.

Valuble as quinia is as a tonic, anti-pyretic and antiphlogistic, its great therapeutic virtue is as an antiperiodic. There are whole regions of country which would be almost uninhabitable but for this one drug. The manner of action of quinia cannot at present be

satisfactorily explained both from deficient knowledge of the nature of malaria and of quinia action. It is interesting however to note that the normal fluorescence of the tissues, believed to be due to a substance called by Bence Jones animal quinoidine, is deficient in patients suffering from malaria and that under the use of quinia the normal fluorescence of the tissues is restored. Quinia is use both as a prophylactic and as a curative agent against malaria. As a prophylactic quinia may be used in morning doses ranging from three to ten grains as experience proves different sized

doses to be efficient in different malarial regions.

Twenty grains of quinia per day, in divided doses will in the majority of cases serve to break up attacks of intermittent fever. Its administration should be begun as soon as possible after the occurrence of a paroxysm. In remittent fever the drug should be given in sufficient doses to obtain its antipyretic effect (ex. twenty to thirty once or twice a day until the temperature becomes normal. In pernicious fever no time should be lost in bringing the patient under the influence of the antidote

for this purpose from thirty to sixty grains should be given during the first twenty four hours. The various neuralgias and other affections caused by malaria yield to the influence of quinia.

Quinia may be given by the mouth in solution or merely stirred up in in water in which form it is less bitter and the taste less persistent than when given in solution; by the rectum in the form of suppositories; or subcutaneously in the form of the hydrobromate.

Huxham's tincture is the best preparation of bark and the form in which cinchona is

most used. It is made from red bark and contains bitter orange peel and serpentaria.

John B. Crombie

A Thesis

on

Respiration

by

W. P. Ivey of North Carolina

Class of 1883

University of Maryland

Respiration.

Definitions. Matter in all its forms is either organic or inorganic. Organic matter is composed of organs or heterogeneous parts with different functions put together and acting as one whole for the consummation of some fixed purpose. Inorganic matter is not composed of organs and is an entity in itself. Between these two classes there must be some distinguishing difference which some have thought to be life, others reproduction of its own species, and others non-dependence upon externality. This time but these differences do exist, but we regard continual change as the all-important feature

of organic life by which it is distinguished from inorganic matter. Into an organism matter is taken in one form; here it undergoes a transformation or combination, subserves its purpose and is thrown out as effete material in another form. This taking in new material and throwing out old material is the especial property of an organized being and especially of the human body, the highest type of organic life. One of the principle elements, which must find its way into the system is oxygen and one of the principle substances which must find its way out is Carbon Dioxide. These two

peculiarly associated with each other and it is essential to life that the one have ingress and the other egress. In circulating fluid the blood acts as a middleman between them. It is the great highway by which one is introduced to the system and the other is expelled. There are three classes of blood; arterial, capillary and venous, but the capillaries are so short and the blood undergoes so little change in them, capillary blood is disregarded and only two great classes are recognised. It is the predominance of one of these two gases oxygen and carbonic dioxide that constitutes the difference between

arterial and venous blood. On leaving the left ventricle of the heart, the blood is loaded with Oxygen, is of a bright scarlet color and is called arterial. [illegible] the system it comes back through the venae cavae into the right auricle deprived of its Oxygen [illegible] with Carbon Dioxide, of a dark purple color and is then called venous. It now passes into the right ventricle and through the pulmonary arteries into the lungs it becomes arterialized by contact with the air. Now any apparatus, by means of which the blood can be brought into close relationship with the external air is

called a Respiratory system and Respiration is the exchange of Carbon Dioxide for Oxygen. Respiration is a very simple process and is dependent upon the diffusion of gases. Having a moist membrane with a gas on either side of it after a while it will be found that they have each passed through the membrane and to some extent changed places. This is the exact state of affairs in our economy. In the primitive cell, the representative of [illegible] life and in some of the lowest [illegible] of life there is no blood to carry the increment and excrement so Respiration must be carried on directly through

the external surface by absorption. Going on to a little higher form of life, as in bees and flies, we find tubes, which ramify to a great extent through their body, and through which air is conveyed to the system. The frog is also supplied with respiratory tubules, but to some extent absorbs oxygen directly through the external surface which is kept more or less moist for this purpose. In the fish there is a special appliance by which a large amount of surface is exposed to the water in which it swims and from which it derives its nourishment. Analogous to this is the respiration of the foetus

in utero for in this case the blood of the foetus takes Oxygen from and gives Carbon to the blood of the mother from which it is separated by a very thin wall. In man Respiration is carried on to some extent through the alimentary canal, to a larger extent through the cutaneous surface, but mainly through the lungs. Respiration is both external and internal, the former including the changes which take place between the blood and the air the latter including the changes which take place between the blood and the tissues in [illegible] of Respiration generally, it is understood that we mean pulmonary, external.

Mechanism. The lungs are two in number placed in the chest cavity one on either side the right being composed of three lobes and the left of two. Ramifying these lungs ramify the branches of the [illegible] tree. Each small bronchial tube terminates in a small cell or alveolus which is the proper lung structure. These alveoli present a very great amount of surface which can be traversed by the air entering by the trachea above. It has been estimated that these innumerable little air vesicles present a surface of four hundred and forty square feet which is enormous when we take into consideration

the size of the lungs. These alveoli are connected together by interstitial or connective tissue in which ramify the capillary blood vessels. The air and blood in the lungs are separated only by the alveolar and capillary walls and these are kept very moist. The blood to be acted upon by the atmosphere is conveyed by the ramifications of the pulmonary arteries and the [illegible] substance is nourished by the bronchial arteries. The lungs also contain veins lymphatics and nerves. The cavity in which the lungs are placed also contains the heart and large vessels and is air tight. It is necessary

that this should be the case, for if the walls of the chest are punctured air will be sucked in and out through this opening instead of the trachea. The lungs are covered except at one point by a serous membrane called the pleura, which is also reflected off upon the parietes of the chest thus forming both a visceral and parietal layer. Except in pathological conditions the lungs are never without air, but are always in a partly distended state. During the inspiratory act the thoracic cavity by the aid of certain muscles is greatly enlarged in every direction, vertically, lateral-

by and antero-posteriorly. The chief muscle of inspiration is the diaphragm which separates the thoracic from the abdominal cavity. In a state of relaxation this muscle forms a vault the convexity of which is directed against the right or inferior surface of the lungs. When it contracts it assumes the horizontal position, becoming flat & pushing the abdominal viscera before it and thus increasing the vertical diameter of the chest cavity. The ribs are attached to the dorsal vertebrae behind and the costal cartilages in front their direction being forwards and with the exception of the first downwards. In the inspiratory act-

The three scaleni muscles fix the first ribs and the other ribs are raised when these are fixed by the contraction of the external intercostal muscles. Being raised up, by virtue of their direction they also project forwards and enlarging the sternum with them thus enlarge the anteroposterior diameter. The ribs are also inclined when raised and during the contraction of the intercostals they enlarge out and thus increase the lateral diameter. The thoracic cavity being thus enlarged the lungs expand and the internal pressure being less than the external air rushes in to equalize it

and thus constitutes an ordinary inspiration. In an extraordinary, forced or laboured inspiration nearly every muscle in the body can be called into action, in addition to the [illegible] Pectoralis Major & Minor and the Serratus Magnus. The amount of air which remains in the lungs is called the stationary air and is about one hundred cubic inches. The air which is taken in during an ordinary inspiration is called tidal air and is about thirty cubic inches. In ordinary respiration the lungs do not reach the maximum expansion and in forced inspiration

they do and the amount of air taken in over and above the total air is called complemental air and is from a hundred to a hundred and twenty cubic inches. Inspiration being completed there is a very short interval then the muscles relax, the thoracic cavity becomes smaller, the internal pressure becomes greater than the external and air is driven out thus constituting an ordinary expiration. Ordinary inspiration is active and ordinary expiration is passive, but in forced expiration nearly all the muscles of the body are brought into play but especially the Internal Intercostals, Triangularis

Sterni and Obliquus Internus & Externus. The air which is forced out by a laboured expiration over and above that which is ordinarily driven out is called supplemental air. The amount of air which the lungs are capable of holding at one time is called the vital capacity, and is from two hundred to two hundred and fifty cubic inches. The vital capacity varies according to circumstances and is especially dependent upon stature, being increased nine cubic inches for every inch increase of stature. An inspiration and expiration with the interval between them make a respiration and these always, ex-

except in disease fatigue to take place in a rythmical manner I will speak of the reason of this, when we come to notice the nervous mechanism of the subject. The inspiratory act is slightly shorter than the expiratory and they bear to each other the relation of ten to twelve. This relation is modified by various circumstances In ordinary breathing through the mouth no sound is heard, but in breathing through the nose there is heard a sound of a soft breezy nature. On applying the stethoscope to the larynx or trachea murmurs may be heard both on inspiration and expiration and these are called respiratory murmurs. Within the lungs also there is

heard what is called the vesicular murmur, which is due to the friction of the air [illegible] the alveolar walls These respiratory sounds vary in different persons, are more intense in children than adults and in [illegible] in males. As to the number of respirations per minute there is a great difference according to different observers One gives fifteen, another twenty and another seventeen The latter is probably nearest the truth. The number is greatest at birth and least at about [illegible] ars of age. They vary of course with disease, muscular exercise &c. There are two types of respiration, diaphragmatic or abdominal thoracic. Men and children use the for-

mer and women the latter & the time when girls change from the former to the latter is not known exactly, but is about the age of puberty. Men and children breathe by means of the diaphragm because it is the principal muscle of respiration. Women breathe by means of the thoracic muscles, not on account of their dress as some suppose, but because they are so constituted and they are so constituted in order to give room in the abdominal cavity for the enlarged uterus whenever occasion may require such space

Changes in the air. The air passes into the lungs composed of Nitrogen and Oxygen in the proportion of four to one.

It contains a little Carbon Dioxide some watery vapor and a small amount of other impurities. The temperature of course is never at all times having passed into the lungs it returns having undergone important changes in their ingredient [illegible] undergoes no change. It has lost about four per cent of its Oxygen and gained from four to five per cent of Carbon Dioxide together with watery vapor Ammonia and other impurities We do not know what these impurities are, but we know that they render expired air poisonous and unfit for further use. The expired air as a rule is from two to four degrees warmer than the inspired air It is warmed

partly at the very threshold by the convoluted turbinated bones and greater on by contact with the mucous tissues within. When the temperature of the external air is very low the expired air may be colder than the inspired. The air on emerging from the lungs is expanded by warmth, but when dried is less in volume than than the inspired air by 1/30-1/20. On an average about one and a quarter cubic inches of Carbon Dioxide is expelled at every expiration. This, as with the other products, varies with circumstances, increasing from birth up to the age of thirty and being less in the female than in the male. The amount of watery vapor is considerable and

depends upon the density and temperature of the atmosphere. This vapor can be made visible by blowing the breath upon a cool glass surface.

Changes in the blood. The changes which take place in the blood are but few and the first is the taking up of oxygen from the air. It is the presence or absence of this gas that constitutes the difference between arterial and venous blood. Carbonic acid has some similar influence, but very little. It has been a question as to the condition in which oxygen exists in the blood, whether in a state of combination or simple absorption. It has been discovered that the red corpuscles are chiefly com-

served in the oxygen-taking power of the blood, for being deprived of them the serum will take up only a small amount. Some of the Oxygen taken up by the blood is in a state of solution in the plasma, but the most of it combines with the haemoglobin of the red corpuscles converting it into oxyhaemoglobin, or reduced haemoglobin. The Carbonic Dioxide, like the Oxygen, exists partly in a state of absorption, but for the most part in a state of combination with Sodium, forming Carbonates and Bicarbonates.

Changes in the tissues. We know what these changes are, but do not understand their nature. We know that

Oxygen passes from the blood into the tissues and is appropriated by them in some mysterious way, but exactly how we are unable to see. Carbon Dioxide is evolved by the tissues as an element of waste and its production is not dependent upon the amount of oxygen appropriated, for the amount of Carbon given off is often larger than the amount of Oxygen received. These changes vary according as the tissues are at work, or at rest. As a man at work requires more food than a man at rest; so any muscle at work will require more Oxygen and will give off more waste products than a muscle at rest.

Changes in the circulation. During an inspiration there is an increase of arterial tension, because of pressure upon the large vessels in the thoracic cavity. During expiration the pressure is taken off and the tension returns to its former status. The veins and arteries are antagonistic to each other in their action one tending to increase blood pressure in the other.

Nervous Mechanism. The muscles of Respiration are of the voluntary or striped variety, but the act of breathing is involuntary and goes on at all times without any act of the will on our part. During sleep, in epilepsy, chloroform narcosis and in all states of unconscious-

ness from whatever cause respiration is going on just the same. We can hold our breath for a short while, but no one can commit suicide in this way. It is wonderful how nicely all the muscles are coordinated as to act rythmically and at all times without our notice. By vivisections it has been discovered that there is a nervous centre, which presides over these muscles and causes them to behave in this manner. This centre has been found to exist in the Medulla Oblongata, between the vasomotor centre and the Calamus Scriptorius. Of all the centres in the brain, the respiratory is the one, which is

most frequently and deeply affected by nervous impulses from various quarters. As it is necessary to our existence it has been styled by Flourens "The Ganglion of Life" Various experiments have been performed to discover, whether this centre acts automatically or by reflex action, the stimulus being brought to it from distant parts by afferent nerves. As the Diaphragm is the principal muscle of Respiration so the Phrenic nerve, which supplies it, is the most important nerve of Respiration. But this nerve may be severed and the respiratory centre still acts. The spinal chord may be cut [illegible] the centre still acts and the Res-

spiration, though very much crippled will go on through the glottis and also nasal. All the upper part of the brain has been removed leaving the Medulla in tact and still the centre sends out its impulses. From these experiments we arrive at the conclusion that the respiratory centre acts automatically, though acted upon to a great extent by afferent influences. Thus a pinch or a dash of cold water on the face will often cause a marked change in the character of the breathing. If this centre act automatically, there must be something to cause it to act and this causative agent is found in peri-

marily the want of Oxygen in the system and secondarily an excess of Carbon Dioxide. This centre, not only acts automatically, but it acts rythmically. The cause for the rythmic action is not known but various theories have been advanced to account for it. The most plausible is that the want of Oxygen generates a poisoning, which stimulates the nervous cells and, as this generation is slow, it requires some little time to call forth an impulse from the centre. During the intervals and in the expiratory act, which is passive, enough force has accumulated to call forth another impulse from the centre.

Asphyxia and Apnoea. When from any cause a sufficient amount of air can not be conveyed to the lungs the person suffers for the want of it and endeavors to make up for it by deeper and more frequent respirations. This condition is known as Dyspnoea or difficult breathing. A stage a little further in advance of this is suffocation and the last stage is asphyxia, which is characterized by a stage of excitement, a stage of convulsions and a stage of exhaustion and death. This is the result of too little air. On the other hand we may have a condition, in which too much Oxygen is presented to the system. Apnoea

denotes this condition, though it is often used synonymously with Asphyxia. In this state the respirations are very slow and shallow, because there being an abundance of Oxygen in the system, there is no generation of force to cause an impulse on the part of the respiratory centre.

Exercises. In very cold weather the air should be breathed through the nose, as much as possible, in order that it may be warmed by the turbinated bones. As the abdominal walls are expanded by descent of the diaphragm and the chest walls expanded by muscular contraction, it follows that any clothing, which hinders the ex-

Largement should be prohibited. As the air exhaled is full of noxious materials, it should not be breathed again it should in some way be expelled from the room and fresh air introduced. Good ventilation is essential for easy, respiration and good health.

Modified Respiration A familiar modification known as snoring is caused by breathing while asleep with the mouth open and the flapping forwards and backwards of the palati. Hiccough is caused by the sudden contraction or spasm of the diaphragm with a sudden closure of the glottis, which causes the peculiar noise. Coughing is a deep inspiration with a

forced expiration through the mouth.
Sneezing is the same as coughing
with the exception that the nose, in-
stead of the mouth, is the avenue.
Sighing, laughing and crying are also
modifications of the respiratory process.
Thus we see that respiration is not
only a step in the vital physical sub-
by it we express our feelings whether
sad or gay. By it we sigh may be
on account of some grievance or mis-
fortune or may be for an absent
lover. By it we cry, as an expression
of the deepest grief or the direst calam-
ity and by it we laugh as an evi-
dence of hilarity and good humor.

Finis.

Abortion

The term abortion is generally applied to the escape of the embryo & ovum from the uterus previous to its viability, which, as a rule is never earlier than the 6th month. After viability we call the escape of the foetus premature labor.

Without any attempt at a scientific introduction of the subject I will at once begin to consider

The Causes of Abortion

These may be divided into those inherable to the embryo itself & those that are not, may designate maternal causes.

Concerning the embryonal causes, the ovum may become an intrauterine mole, hydatid, or simply a mass of "stuff" bearing not the slightest resemblance to a human being; or, after a certain time it may die. In any of these cases it will, sooner or later act as a foreign body, exciting uterine contraction with the effect of dislodging & expelling its contents.

Regarding the maternal causes, they may be predisposing or exciting,

First among predisposing causes I will consider previous abortions. There can be no doubt that one abortion renders a woman more liable to the same accident in a succeeding pregnancy. After several successive abortions, or when a woman has gotten in the habit, so to speak, it seems almost impossible for her to go through a pregnancy to full term. This is positively proven & undisputed.

Uterine displacements if pregnancy takes place will often cause abortion. Of these retroflexion & retroversion are for the more serious as causes of abortion & the only ones that will be considered. Whether it be flexion or version, the result is the same. Anterior or lateral displacements are not apt to interfere.

In cases of retroversion of long standing where the fundus uteri is down under the promontory of the sacrum & bound by inflammatory adhesions, it is almost impossible for pregnancy to continue longer than the third month, at which time the uterus must arise out of the pelvis. Being firmly held in its unnatural position so that it cannot arise, the ovum nutrition continuing to grow & expand the cavity which it is in, uterine

contractions will almost certainly set up, resulting in its complete evacuation. The growth of the uterus may suffice to break up the adhesions, allowing it to rise as it should, & pregnancy to continue. In this case it will have the additional beneficial effect of curing the displacement. Cases have been recorded where the fundus remained down under the promontory, & yet pregnancy continued until the child was viable. Such cases must be exceedingly rare. A woman with a serious displacement is not apt to conceive but it sometimes happens.

Certain uterine diseases, predispose to abortion. Thus endometritis or endocervicitis, polypi, ulcerations, or submucous fibroids, if pregnancy occur, would be likely if not apt to produce an abortion. Intramural or subserous fibroids of the uterus, would be very serious obstacle in the way of a favorable termination of pregnancy. Weakened conditions of the cervix from former surgical operations or other cause, are apt to produce premature labor if not an abortion. The condition of a woman's general health, has a great deal to do with the progress of gestation.

If she be weak & anaemic or has scrofula, tuber-
culosis, or, in short any thing that reduces the
strength of a patient renders her less able to go
safely through her period of pregnancy. Especially if
a woman be infected with syphilis is she
apt to abort. Very few of them fail to abort at some
time & in many cases, as often as impregnation takes
place until she is treated with antisyphilitic remedies.

Whether we consider them as predisposing
or exciting causes, acute affections of the system
occuring during pregnancy are prolific causes of
abortion. Typhoid fever, within itself a very formida-
ble disease, is all the more so when occuring in a
pregnant woman. Some contend that the feminine fever
in all fevers, often produces sufficient uterine contraction
to expel the foetus but most authors disbelieve it now.
The more severe eruptive fevers such as variola also
add greatly to the danger of abortion. This accident
seems especially liable to occur in the course of
pneumonia. Why this is so has not been satisfactori-
ly explained but it seems to be a fact never-
theless.

Exciting causes we may consider accidents of all kinds. Falls, or blows over the abdomen as by ex- gastrium. Reception of bad news, or, conversely great joy, mental emotions generally are frequent causes. In rural districts, horseback riding, exertion as in lifting or reaching overhead, violent exercise of any sort & all sorts are possible causes of abortion. Attacks of diarrhoea, or extreme constipation either may produce the same effect.

Symptoms & Course.

Generally, the first thing to attract the woman's attention will be hemorrhage more or less profuse. It may be very slight & gradual or sudden & profuse. If it be a primipara she may not be aware of her condition in the early months of pregnancy, & think that her menses which she has missed for 2 or 3 months, are returning. (I may add here that abortion is more apt to occur at what would have been the menstruating period.) Soon, however, the bleeding becomes more profuse & with it uterine contractions announce to the patient & her friends that something more serious is to encounter.

Usually there will be clots of blood, among which,

if it be in the early months, will likely be the foetus which may escape notice by the careless observer. Often the entire ovum comes away with the membranes intact. If it be in the third or fourth month the foetus will generally escape as in labor at full term leaving the membranes & placenta behind which will often require removal by the hands of the accoucheur.
In other cases the hemorrhage may continue only slight for several days. Again contractions may set in first. This, however, seldom happens except in what is more properly called premature labor. There may be premonitions for two or three weeks before the more urgent symptoms appear.

A hemorrhage from the vagina of a woman from one to five months pregnant always indicates danger of abortion, & demands our closest attention. (Occuring after the sixth month it is more indicative of placenta previa, a still more serious state of affairs but which does not claim consideration here.)

Vaginal examination should always be practiced here to ascertain the condition of the uterus.

Treatment.

The treatment of abortion naturally resolves itself into prevention & treatment when it actually occurs. If, when called to a patient threatened with an abortion, we find that hemorrhage has not been profuse nor uterine contractions strong & by vaginal examination we find the os not dilated, we should at once administer a full dose of opium to be repeated sufficiently often to keep the woman thoroughly under its influence, & prevent, if possible, forcible uterine contraction. To arrest & prevent hemorrhage we should tampon the vagina with wads of cotton tied into a string & sufficient amount to completely fill up the vagina. The cotton should always be thoroughly melted & the water squeezed out before introduction. Blood would readily flow over it in the dry state. It is also well to use a little carbolized glycerine as a lubricator & antiseptic. The tampon should never be allowed to remain in the vagina longer than six or eight hours, when it should be removed & another replaced. If it remain longer putrifaction

will almost surely occur. By this plan of treatment we will often be able to arrest the hemorrhage & contractions until the irritation is relieved & the uterus will tolerate its contents, & abortion is prevented. It should be continued until entirely symptoms have subsided & then the woman should be kept quietly in bed until at least a week has elapsed. Viburnum Prunifolium has lately come more or less extensively into use as a remedy against abortion, & from the many favorable reports from its use, there can be no doubt but it possesses considerable virtue in this regard.

Often the uterus will baffle all our efforts to arrest its action & will go on to throw off its contents. Especially where the same thing has frequently happened before. An irritable, flabby uterus in the habit of aborting will rarely sustain the foetus longer than the fourth or fifth month. If hemorrhage has been considerable & contractions sufficient to begin to dilate the os uteri, it would be unwise to attempt to prevent the abortion. When we determine that it cannot

be prevented, unless we can terminate the case at once, it is wise to tampon the vagina to prevent too free a hemorrhage. This will enable us to leave the patient if it be nescessary for us to do so. But we should not leave her for more than two or three hours at any time.

Then we should administer some of the milder oxytoxics, of which we have none better than quinine. In many instances, after tamponing & giving the quinine, when we return in two or three hours we will find the foetus lying in the vagina & we have nothing to do after removing the tampon but take it away. If it be after the formation of the placenta we should be very careful to remove every portion of that organ as well as ~~every~~ all shreds of membrane that may remain. So long as any of these remain we are almost certain to have hemorrhage on one hand or uterine colic on the other & in either case are very apt to have septicaemia following. By introducing one or more fingers into the ~~uterus~~ we will generally be able to detach & remove any portion of placenta

that may be adherent. Previous to the formation of the placenta we generally have little or no trouble in this regard. If the ovum is not expelled en masse shreds of membrane will generally be hanging from the external os & nothing is more easy than to remove them. In any case we should not fail to remove all blood clots & other matter from the uterus & vagina, so as to leave no source of septic infection. Unfortunately the latter will occur in a certain number of cases in spite of our efforts to prevent it.
Having done this we should endeavor to insure full, regular & permanent contraction of the uterus. Besides the best of food, & hygienic conditions, our patient should have a certain amount of quinine, to which may generally be added with advantage Dover's powder. She should be confined to bed for at least ten days & have all the attention & care that we would show her after confinement at full term.

J. E. Harris

Feb. 1889. Maryland University.

P.S. As it may be possible that some one may read this, it will be proper for me to add a note of apology to the reader.

This thesis has been written in great haste & though I would not think of assuming originality & do not claim any of it as my own observation, I have written without a single reference to any text book or article on the subject. It is, therefore my own knowledge of the subject, which, I know to be very superficial & deficient. Knowing that I am the only one to derive any benefit from it, I considered that I would profit more by writing in this way & that is why I did it.

Had I any idea that any one would ever read it, I would have taken more pains in writing, but I have written it with the firm belief that after it leaves my hands it will never be seen again & therefore it is very badly composed & poorly written. If I ever hear of it's having been read, I shall be filled with surprise & shame.

J. E. H.

Thesis of J. E. Harris

Class '89

Chas. A. Cooke.

2/16/83

Savannah
Georgia

Chorea and its Treatment

Of the wonderful whole of the human body, or of all the parts which go to make it up, there is none to which a deeper and more mysterious interest is attached, than to the nervous system. By this we have our conscious being; by this we are linked with the outer world; through this system do all our passions and emotions, perceptions and intellectual efforts operate; Such being the case, should we then marvel that this delicate and complex machinery should

be

be visited with exhaustion, or that its diseases should be amongst the most frequent that our fallen nature is doomed to bear? It is sufficient, says an author, to form a decided opinion on the matter; but there seems, he continues, reason to entertain the belief, that failure of nervous power is much more characteristic of diseases of the present day, than of that which forewarned some thirty years ago.

Now let us look at some of the various causes. Who can doubt but that the

Nervous

nervous susceptibility* by the greater confinement of vast portions of the population, not only within doors, but frequently in unhealthy rooms and workshops. This susceptibility being thus increased, we find it passed down from one generation to another in a more serious form. This is, for instance, fully illustrated in that very interesting disease which I have chosen for my subject viz "Chorea". It is here that we see the most peculiar phenomena brought on by a shock, given to that

*is increased

that hereditary susceptibility of which I have been speaking.

The term Chorea is of the widest and loosest significance, for under it we may even speak of stammering, giggling, nervous twitchings, or convulsive shakings of paralyzed parts and of the tics which are sometimes seen in epilepsy, in fact it is scarcely too much to say that it includes almost every form of disorderly involuntary movement which has not altogether the specific char-

acters

actions of tremor or spasm.
Nor does this exhaust the list of affections which have, or are supposed to have some near relationship to Chorea, some authors even go so far as to mention twitchings and grimacings, which I would consider nothing more than bad habits.
It will be useless for me to enter into the pathology of the disease, since it is all buried in more or less mystery, and the numerous theories are so uncertain. During the past few years Dr Hughlings Jackson

1 Freedom

Broadbent, Gaskell, Ogle Barnes and others have done much to elucidate the pathology of Chorea, but their conclusions are not satisfactory and seem to be founded mostly on supposition. There are however some very feasible theories, and as it will not be necessary for me to review them all, I will only note one or two of the best and then proceed more directly to my subject, hoping thereby to avoid uncertain points and to make my thesis more interesting

interesting. To do which I propose to be more explicit concerning the treatment than the disease itself.

Dr Kirkes was of the opinion that Chorea was caused almost always by minute pieces of fibrin which were loosened from an inflamed Endocardium, and were thence carried to nerve centres, where they produced irritation: this was as far as his observations went. Now a little later we see that Dr Hughlings Jackson ventured to point out the very spot in the nerve tissue where the irritation was set up

up; he says, that an embolus passes up from an effusion of Endocardium and plugs up the branches of the middle cerebral artery which supplies the convolutions of the Corpus striatum. This seems to be the most plausible theory since [illegible] it is noted by the best authors; Bartholow mentioning it most particularly, in fact, showing his preference by speaking of it alone. But there seems to be some doubt about this. There are some who reject the embolism theory.

but I will not stop to consider this, since Jackson is so well thought of, there is no doubt but that his ideas deserve the first place.
Even if we look to the teachings of physiological experiments, we do not get much help towards exactly localizing the particular mischief which operates in Chorea; indeed there is no lack of instances to show that we have a vast number of reflex actions which will always make the localization of many disorders of the Ner-

vous system a hopeless task; Especially will it be a task in Chorea, where we have so many symptoms which may depend upon sympathetic disorders, set up in other parts than the supposed centre. However, as complicated as this disease is, there is no doubt but that, its existance and the treatment of its symptoms present an attractive field for medical investigation: Especially is our attention called to those anomalies which were previously ordinary mo-

-tions

tions; those designless and unconscious actions which were otherwise normal physiological conditions; that uncontrollable uniquiness which is brought on by every muscular contraction, but it is no use for me to describe the symptoms since I have several cases to bring forward, however, we may conclude from the above, that the entire mechanism of the muscular system, seems to have received some deep morbid impression, some terrible shock, which has

reversed

reversed the order of all natural movements; some grievous shock which has converted the patients happiness into the most profound misery, by leading them a life of perpetual motion. Nor only does one group of muscles become affected, but frequently every muscle in the body. I now purpose to report three cases of the severest type, in other words "Chorea Major". I am in hope thereby, to fully illustrate the disease and to bring forward a treatment which is

comparatively

comparatively new in itself.
Case 1st Eliza H—— aged 8
years. of no rheumatic or
Cardiac history. Chorea was
developed upon a severe
fright, she was attacked
by a cow, and consequently
her whole system received
a severe shock. When
she first came to our
dispensary, her muscu-
lar actions were of the
severest kind, presenting
to me a strange organ,
and one that will never
be forgotten: nor only
was every movement

following

followed by a series of spasms, but she was continually working in the most laborious manner it was utterly impossible for her to walk, if she was placed on a chair she was unable to remain there in minutes, she would wriggle off and fall to the floor the child, who had been previously bright, was now, to all appearances, an idiot: her tongue shared in the muscular movements, so that it was impossible for her to eat

or even to speak. She was fed on soups, and invariably it would run out of her mouth, she being utterly incapable of swallowing it; her lips were likewise involved, they being sucked into the mouth every now and then and taken severely; when the child was put in bed it was impossible for her to stay there, the muscular movements were so powerful that she would be thrown out in a very short time unless caged

in. Such was the state of affairs when I first saw her. She had had the disease for four years, and had been under the treatment of six different physicians, who treated her in the ordinary way with "Kali Brom" and "Sol Kali Arsenitis," but of course, they met with no success, since they failed to use the most important auxilliary to their treatment, namely, "Rest". I will refer

to this

to this latter treatment more particularly, as I proceed; suffice it to say, that we took the Child in hand and commenced our treatment in this way. She was ordered to be put in bed immediately, in a darkend room, and nobody allowed to enter unless in case of necessity. Along with this treatment was ordered R/ Kali Brom. fifteen grains at night in a little water, as also R/ sol

Kali

Kali Arsenitis gtt V three times a day. and the end of the first day there was no perceptible improvement, but after three days there was a decided cessation of the muscular agony and the child began to learn that her only relief was in bed; this treatment was continued for four weeks, when there was such a vast improvement, that she was allowed to get up, but not to leave the room.

now yet to resume any
Company, and at the
end of two more weeks,
she was completely cured,
and is now as healthy
as any child, with the
exception of a little weak-
ness in the knees when
she walks any distance.
Case 2nd - Alberta H—— aged
nine years. This patient
was also suffering about
eighteen months previous
to our seeing her, during
which time she had a
typical case of Chorea
Major which developed

itself immediately after the fright, there was no rheumatic or cardic history with this case Either, and strange to say these two cases were sisters, and stranger still the youngest child developed the disease first and had the severest attack. They had never lived together; the parents were robust people, and assert that there was never anything of the kind in the family before. It did not

strike

strike me that there was any hereditary tendency, but the attack of both girls (there were other children in the family) I consider more of a coincidence than anything else. This case was treated in a similar manner, and recovered before the first case, also making a more complete recovery. The treatment of other physicians had failed to do her the slightest good, which was no more than could be expected.

Case 3rd

Case 3rd Mary W—— Aged
Eleven years. of no rheumat-
ic or Cardiac history. She
came to us on the 20th of
May. 82 with a marked
case of Chorea Major.
She was attacked about
a year before this date,
from apparently no par-
ticular cause. the only way
in which I could account
for it was, that the child
was terribly reduced from
insufficient, the whole fam-
ily being in the most de-
plorable state of poverty:
the child being in this

Wood

weak and nervous condition, may have developed the disease from some harsh treatment on the part of her parents. This patient was ordered the same treatment, a room was chosen for her during the day; at night things could not be so arranged since the whole family slept in the same room. Hence the treatment was not apt to be so harrowing as before, but, notwithstanding all this, the results were the best in agreeable, the patient made a complete

a complete recovery in eight weeks, besides the Kali Brom and Ext Fowlii, Succi Citrici was also used in the last case. Ferri Cart Constituted part of the treatments in each case as also the best nourishment that could be obtained. I could go on and cite several cases but as the above are typical it will not be necessary for others. Now, it is worthy of note, that the treatment which I have given is a deviation from other treatments, and as my cases

have

I have shown, it is a most successful one. We all know that Doc Kali Arsenic, Kali Brom etc are the specific remedies for the disease. But how can any good results be expected when the Choreic movements are being continually increased by making the patient walk to the doctors office, walk through Crowded Streets, every Exciting Thing brought into their way, how can we, I say, expect to lessen these movements when we are thus increasing them; For instance, notice a Patient (Choreic)

(above) when she gets out of bed in the morning and you will find a decided change for the better, and then, to reverse this, order the patient to take a long walk, and on their return there will be an evident increase in the symptoms. Any voluntary motion will bring on exaggerated movements, this is a well known clinical fact. hence it seems reasonable beyond doubt that such being the case, we will obtain the best imaginable results by lessening those voluntary motions which

bring

bring on so many involuntary ones. by forbidding that exercise, which is so illustrative of bad results. in a word by replacing movement by quiet in bed. by forbidding all irritation through the eyes, through the ears, through the mind in fact by complete isolation of the patient. hence it is necessary to select a suitable room, and forbid entrance to every body, with the exception of a quiet nurse. By this treatment I do not mean to say, that the patients ears should be plugged with

Cotton

Cotton, the eyes bandaged, and the body strapped to the bed; such treatment I cannot see the use of, as it always frightens the patient and consequently causes the already excited irritation to be more fixed, and the disease more difficult to eradicate. The patient must be given the most nourishing food, and allowed small amusements, as reading a simple book, or spending a hour or so playing with some toy, and moreover as there is generally some atrophy of the muscles the best treatment

imagine

imaginable is "massage" this would seem to irritate the patient, but it is a well known fact that it does not. it counteracts the effects of prolonged rest and renders the muscles more capable of resuming their normal functions when the disease has been overcome. Of course, massage must be carried on quietly and in a systematic way, or it will prove a source of irritation, it must be done by a person who understands it, in order that the rest and quiet will be disturbed as little as possible. —

It will be useless for me to mention the various other treatments for Chorea. we know that there are over a hundred of them. not including the one which I am interested in: no doubt there have been reports of cures with every individual treatment, in the hands of some body or other; for instance, one author recomends gymnastic exercises, another recomends hard study and calisthenics; another the purgative treatment, and all claim good results. I could go on and cite innumerable remedies which are all just the reverse of the

one

one which Euphold. I can't understand how movements are going to cure movements: it seems to me that the Chorea patient is exercised much more than they can stand by the disease; so how is it possible that they need more exercise. Is it not reasonable to believe that rest and the absence of every source of irritation, is the treatment most needed. No one can deny that "Rest" seems to be a treatment as reasonable in itself as any other known; and I do not hesitate to say that if it was made use of in

all cases of Chorea, I do not doubt but that the disease would be cured about in many cases more it is through ignorance prolonged.

As is the case in some other diseases the treatment (bad) cannot be attributed to ignorance as regards the diagnosis, because we all know that the latter is evident the spectacle afforded by the manifestations of the affection is comical, and as it is difficult to realize that it is not a performance for the amusement of observers, one ought

ought readily to receive a lasting impression from the first case that may present itself. The diagnosis being thus so easily obtained, the treatments should be, after a little observation, equally as easy.

I have endeavored in these remarks not only to make my thesis the proper length, but as interesting and original as possible; the cases quoted are from my own observations and consequences, intended to be mutually connected in every point, but as there is

one of the most interesting subjects to the student of nervous diseases, I am afraid, that I have not been minute enough; however as it is a disease of such great importance, and of such a notorious set of symptoms, and of such a small amount of knowledge concerning its pathology, I am quite certain that older heads than my own may be excused for many opinions which are so often advanced with a seeming presumption

In conclusion I will remark that as some treatments sometimes have a fair trial, I am in hopes that the "treatment by rest" will be of the number of the lucky ones, and if it so happens in the course of time, that the more learned members of the medical profession should observe it more closely, I feel certain that it will be placed at the head of the list of the various remedies now in vogue for this most troublesome affection of the Nervous System.

Finis

An

Inaugural Dissertation

on

Diphtheria

submitted to the examination

of the

Provost, Regents and Faculty of Physic

of the

University of Maryland

School of Medicine

for the degree

of

Doctor of Medicine

by

W. Franklin Twigg

1883

Cumberland, Maryland.

Diphtheria

Def. A specific disease with a membranous exudation on a mucous surface generally of the fauces air passages and mouth and occasionally on a wound.

Hist. The term diph. was suggested by Bretonneau, who observing that the disease was differentiated from other similar throat affections, by the formation of a false skin or membrane.

The term diph. is derived from a Greek word meaning a skin or membrane. Diph. is by no means a new disease. The historical aspect of the disease show that it has preserved its essential character and nature from age to age.

Ever since the end of the 16th century diph. has been observed in every region of the "Old and New World" at 1st it continued for a time in Spain. Rather later all Italy was successively affected by it. Towards the middle of the last century especially epidemics of the disease have occured less generally and less prolonged in England, France and Sweden. The first case of the greatest epidemic of the disease, which as far as is known, has ever occured in this country was in the yr. 1856 - But it was not till 1858 that the disease attained very alarming proportions in

this county. From 1878 epidemics have occurred in various parts of the U.S. In the yr. 1881 Oxford City, Md. was visited by a fatal epidemic of diph. which prevailed for more than 5 mos.

Nature of diph. The disease is essentially endemic in character though sometimes sporadic, and very often epidemic, the attack does not insure immunity from subsequent attacks and the previous existence of any other disease does not afford any immunity from an attack of diph.

The liberation of the various gases of corruption will show how the disease has been confounded

with croup on the one hand and malignant scarlet fever on the other. During epidemics of diph. the practitioner is called to treat a great many cases of simple angina. Thus showing that the same existing cause that would give rise under ordinary circumstances to these acute affections would under give rise to diph. when fully under the influence of the predisposing cause.

It is almost impossible for me to decide wether diph. is a contagious or an infectious disease notwithstanding the many volumes of authority in favor of its being contagious. I am rather

inclined to consider it an Infectious disease. A contagious disease is a disease which is capable of being communicated from person to person.
While on the other hand an epidemic Infectious disease is a disease which at certain periods prevails generally over the whole or over a large portion of a community.
The cause of a contagious disease is a specific animal poison.
The cause of an infectious disease is a certain condition of the air to which disease "germs" are added.
The specific animal poison which gives origin to the contagious must have existed in some person and then communicated from that

person to another by actual contact, before the disease could be propagated. While on the other hand it is only necessary that a person (provided he be predisposed to receive the malady) come in contact with an noxious air from which the infection arose.

Contagious diseases are as a rule capable of affecting the same person only once. Infec. diseases are capable of affecting the same person repeatedly. Thus take the epidemic which occurred at Ontario Ills. as an illustration we would seem that [illegible] it an infectious disease as it was the one there in the true sense of the term.

Causes That the proximate cause of this disease depends upon an epidemic constitution of the atmosphere is a fact fully and unquestionably established. In a great many cases however, the morbific influence generating or developing this predisposition is not sufficiently powerful to produce the disorder unless aided by or called forth by a specific cause. Thus during the prevalence of the epidemic nearly every individual without regard to age or sex will be afflicted with a greater or less degree of anginia. Prolonged exposure to the disease as well as exposure

to the vicissitudes of atmosphere always give rise to soreness of the throat. Tender age is the principal predisposing cause, but the accidental existence of pharyngeal catarrh or of any disease which lowers the system probably increases individual receptivity. Low vegetable organisms probably play an important part in the propagation of the disease but the exact relation between the disease and the organisms has not yet been made out. The experiments of Oertel, Letzerich and others, show that micrococci are an invariable concomitant of diph. Dr. Malagan has clearly

show that the "Germ theory" explains all the phenomena of the specific Genus. In considering the cause of this disease, it is most important to determine whether it can originate de novo or not. Although the disease so often arises in connection with bad drainage, foul habits and impure water supply, that it is now believed by many that diph is produced by some local cause. I have known diph to occur suddenly in remote country districts, where careful inquiries have failed to discover the least evidence of infection or contagion. Diph. exists in almost every

country, but it is most common in temperate climates — After diph. is once developed the germs lives under ordinary atmospheric conditions, but it is probable that dampness favors its development. It seems likely that the germs may remain dormant, external to the body, for a considerable time Prof Howard says 6 or 8 months and may only develope under the stimulus of some particular atmospheric condition, which filth and gasses arising from impure water decayed animal and vegetable matter &c may give rise to.

The germs of diph. appear to have an affinity for the walls of rooms and according to some observers, may attach themselves to cloths and articles of furniture. It is probable that, by the introduction of such things, the poison is often diffused. The poison may be recd. into the system through the water that is drunk or the food that is eaten. Diph. is generally endemic in localities remote from each other not traceable to the influence of contagion or personal infection. They were in close proximity to local filthy surroundings such as stables, styes slaughter houses, cesspools &c.

Some fatal cases of diph. were found to exist in localities rendered swampy and offensive by the drainage from dwellings such as soapsuds and other foul liquids.
These circumstances indicate clearly that there is a local cause predisposing diph. outside of and independent of contagion. The fact that diph. is not confined to the lowlands and artificial swamps, but has been found on high lands, and even on our mountain tops, where filthy surroundings and contagion could hardly be assumed do not militate against the proposition of its filth origin.

Filthy surroundings which contaminate the atmosphere and infection from patients are not the only factors in the production and propagation of the disease. We will now proceed to show that drinking water may be one very common means of originating this disease we think will be pretty clearly established by some information furnished me by my preceptor Dr. D. P. Whelley, of Cumbil, Md. of cases which occured in his practice.

During the past summer the Dr. was called to a family in the city limits, but living on high grounds of a flinty and sandy

character, the surroundings appeared proper and healthy. Four members of the family were suffering from well marked diph. not traceable to contagion or any thing apparent to drainage, or the surroundings; the house dry and tidy. The wants of the family for water were supplied from a cistern which was examined and found to be in good condition and not liable to be contaminated from drainage of any kind. The cistern had been supplied in part by rain and in part by river water. By analysis the Dr. found the water to be very impure, and

pronounced it unfit for use; and the probable cause of the disease or sickness of which all the family were complaining. On inspection after analysis four large living frogs, three dead ones, one dead rat and a deposit of about 6 inch. of black and filthy mud at the bottom, were discovered in the cistern — He was also called to a family 9 mi. from Cumbd. of which all had diph. and several had already died. The father had recovered from the primary disease but was suffering from the various local paralysis frequently following. The drinking water was obtained from a hole dug, 2 ft. through

loamy soil without any rock or wall. This liquid was used almost to exhaustion when sight, smell and taste rejected it. This fictitious well was doubtless supplied by surface water containing all manner of filth generated in the village percolating through a loose soil to the lowest opening. The Dr. is satisfied that the water was the cause in this case. If space would admit several more examples might be mentioned in each of which Ag. seemed to be the origin of the disease - Two distinct propositions are evident including the "germ theory" - to wit: That bacteria causes

diph, and secondly that the disease is at first local and that afterwards it becomes constitutional or general by the entrance of the specific principal into the blood. Whether diph. be primarily local or primarily constitutional or be it in some at first local and in others at first constitutional is of course a distinct proposition from that regarding the relation of bacteria to the malady and whatever the truth may be in reference to the one does not affect the other.

Age & Sex. Diph. exempts neither age nor sex but attacks persons of all ages, but it is much

more frequent in children. —

Anatomical lesions — In the commencement of diph. we observe redness of some portion of the mucous surface. In most cases it is the faucial mucous membrane. Covering a tonsil with a false membrane may be the primary seat of the characteristic local exudation or the arches of the palate or the posterior surface of the soft palate, the uvula, the nares, the pharynx or the larynx may be the primary seat of the disease. The characteristic products of the exudation forming the false membrane varies considerable in consistence —

sometimes it is pultaceous sometimes tough firm and elastic. The false membranes spread from one or from several centres over the reddened surface, and this redness may involve the whole mucous membrane within reach of the eye. The aesophagus and the nasal passages are involved. Thus the disease may prove fatal very early simply by reason of the vital importance of the parts affected. In the earlier stages the different patches of the membrane are more or less isolated. They are surrounded by a mucous membrane in a state of intense hyperaemia, they project higher

above the surrounding surface.
In the next stage these layers
become loosened and show a ten-
dency to curl up, giving the
exudation a more or less cupped
appearance. Pus gradually
accumulates beneath it until
it detaches itself, leaving the
subjacent mucous membrane
in a state of catarrh.
Symptoms. The symptoms of diph-
ery in different cases from
those of quite a slight sore throat
to those of the most serious and
malignant blood poison.
Between these two extremes we
meet with every gradation of
intensity. The presence of the

"false membrane" in the throat is the characteristic symptom, but sometimes, in slight cases, the disease passes off without the formation of any membranous exudation and occasionally the patient dies before it is developed. Again the local affection is in some cases, accompanied with considerable inflammation whilst in others there is scarcely a trace of it, hence it is convenient in describing the symptoms of diph. to classify the varieties of the disease. The following are the constitutional forms: 1) Typical (2) Mild 3) Inflammatory 4) Malignant (5) Chronic.

The course of typical diph. is some what as follows: After a person is exposed to noxious atmosphere that atmosphere capable of having rise to diph. the patient suffers a general malaise and depression with occasionally chilliness the disease announces itself by a definite constitutional disturbance. The first stage commences with a rapid rise in the temperature and pulse rate the former often reaching 103° and sometimes 104° Fahr. within a few hours an increase feeling of chilliness loss of appetite malaria and in some instances vomiting and diarrhoea.

If the patient is an adult he complains of pain in the loins, of headache and often of giddiness. His attention is however non directed from these general symptoms to his throat, which in a very short time begins to feel hot and dry and to cause much pain in swallowing while the neck feels still swollen, and tender.
In children these subjective symp. to a great extent are lost.
The practitioner called to a case such as is here described, will at once examine the patients throat probably he will find the back of the pharynx red, swollen & larged. But the false mem. will possible

not made their appearance yet. If they have not, a few hours will probably suffice to develope them. However the false mem, as a general thing is fully developed before the phys. is called. The second stage will then be present on careful watching the progress of the case a viscid yellowish secretion will be found or seen gradually accumulating in the depressions on one or both tonsils a little later the superficial layers of mucous mem, becomes infiltrated at a certain point with a yellow substance which raises them above the level of the surrounding normal tissue.

In this way a considerable surface of the fauces become coated with faulk mem. which, being constantly reinforced by addition to its under surface gradually assumes a leathery consistence and lardaceous appearance. When the false membrane is removed the mucous membrane beneath will be of a vivid red color and robbed of its epithelium, in fact, the parts are left in a raw and bleeding condition. Unless the mouth be repeatedly washed out with a disinfectant gargle the breath becomes horribly offensive from the decomposition of the morbid

secretion in the throat. The primary blood poison is shown by the extreme debility, and by the character of the pulse, which is frequently weak sometimes very rapid and again very slow. The specific septicemia is further shown by the appearance of albumen in the urine which usually makes its appearance within the first few days - sometimes within twenty four hours. In some it does not make its appearance until the third wk. When diph. attacks the larynx we have what is termed Laryngeal diph., one of the most fatal diseases to which -

humanity is liable, supposing the disease has not attacked the larynx. The disease runs one of two courses: it may subside and the patient solely recover, or it may quickly end in death. If the disease instead of yielding takes an unfavorable turn the patient may either sink from secondary blood poison with typhoid symptoms or gradually deepening coma more often however death occurs from cardiac - embolism or simple syncope. The tongue is dry and brown and tremulous - sordes are found on the teeth.

Diagnosis. There is no affection with which diph. could readily be confounded, after it is fully developed. Once having seen this disease it may ever afterwards be recognized immediately.
In the early stages before the exudation has taken place it is difficult to distinguish diph. from simple anginae.
Croup and scarlet fever are the two diseases most likely to be taken for diph.
Prognosis. However mild a case of diph. may appear to be no case is attended without danger. To recognize the disease early and its specific nature,

and to manage it judiciously are important elements toward a favorable prognosis.
The danger in diph. seems to be in proportion to the youth of the patient.
Sequelae. It is remarkable in how short a time fully devel-oped diph. will reduce the vital forces to such a degree of adynamia that it will require months before the recuper-ative energy of the system aided by restoratives.
There are paralysis of certain muscles which is apt to follow diph. Sometimes the muscles of phonation occasionally the

the muscles of the heart.
The temporary loss of accommodative power after diph. causing amplyopia is due to paralysis of the ciliary muscle. The organs of special sense, taste, smell and hearing may be impaired. The treatment for these paralysis following diph. consists of the use of the ordinary methods of invigoration, fresh air bath and tonic remedies.
Strychnia, Iron and Phosphorus is indicated. Elix. Phosph. Ferri et Strychnia. is a very good preparation each 2 contains 1/60 gr. Strychnia. by dilution this may be given to children in suitable doses.

The local application of the electric current will produce a good effect.

Treatment. The treatment may be considered under the head of therapeutics (both general and local) and prophylactic.

General treatment. This should be directed towards husbanding and supporting the patients strength by very available means. It should be placed if possible in a large cheerful and well ventilated room the air of which must be at once warm and moist. The temperature should be kept as nearly as possible between 60° and 65° Fahr.

The food and diet must be both nutritious and digestible. Gruel, barley tea, milk, &c. must be given frequently at short intervals and in small quantities. It is well to pay attention to feeding during the night. The administration of alcohol in small quantities is almost always advisable. If symptoms demand Brandy may be given in large quantities, as much as 2 oz have been given to an adult within 24 hrs. with manifest benefit. Blood-letting is not recommended. Tracheotomy - It will be sufficient to state that the operation has been successful in many cases

apparently hopeless and promising but little success. On the other hand it often fails even in promising cases. Much depends upon the subject, operations, the treatment &c. The general remedies which have been recommended in diph. are four kinds of agts. 1 Recuperative agts. 2d The antiseptics 3rd The alleged specifics and 4th The expectorant. Of the recuperative agts. Iron and Quinine are of most importance, of these Iron is most useful. Quinine is much used as a tonic in diph. as well as for its support to the nervous system and apyretic in fever.

Morphia and Chloral are occasionally necessary to combat continued sleeplessness and to prevent the exhaustion which is its invariable consequence. Mercury, Sulphide of Potass, Bromine and the Balsams are highly spoken of in the treat. of diph. If blood or albumen appears in the urine diuretics are contraindicated. The general antiseptics are Iron, Chlorate of Potas, Cubebs and Salicylic acid. The use of expectorants has long been more or less in vogue the principal remedies of this kind which have been found useful are

Senega, carbonate of ammon-
and the Balsams.
Carb. of ammon, grs. 10–10 may
be given with Senega or in aq.
I have treated two cases of diph.
with Sc. Ferri Chlor. ℥ 11 Sumia Sul.
gr x vj. Syr. simplex, aa ℥ 11 ℔.
sig. ℥ every 2 hr.
Also Ol. Terebinth, Pot. Chlor. aa
℥ 1 ss Syr. Acacia qs. and Aqua qs
ad. ℥ 10, ℔. sig. large teaspoonful
alternately with the above every
2 hr.
Prof. McSherry recommends the use
of Hyd. Bichlor in doses from
1/32 to the 8 gr. every two hours.
with Sc. Ferri, Sumia Potass &c.
This should be given high and dam-

local treatment. This has varied greatly at different times and still there exists a divergence of opinion in regard to that which is the best. — Caustics and astringents, Solvents and Antiseptics, heat and cold have all been used. The caustics have perhaps been more general than that of any other class of local applications. Ice and Steam. In many cases the patient will derive great comfort from frequently taking a piece of ice into his mouth. On the other hand, heat is a very useful agent when false membranes have attained any considerable degree of thickness.

Hot fomentations applied externally to the throat are often found to relieve pain.
Before concluding my remarks on the treatment of diph., it may be well to add a few words on its prophylaxis. When inspecting patients throat of fauces or cleansing the tracheotomy tube the practitioner should be very careful to prevent any of the morbid secretion from coming into contact with his lips or mouth. Fatal results have occurred from this precaution. No one should enter the room except on urgent necessity and all linen, spittoons or other

articles which are pertinent may have used should be disinfected. By adhering strictly to these rules it is usually possible to prevent the extension of the disease.

Scarlatina. (Scarlet Fever.)

Scarlatina derives its name from the color of the eruption it differs greatly in different cases in regard to symptoms and fatality Except from complication the mildest form of this disease is not dangerous. But the severest is truly malignant. The disease has been divided into three varieties based on the difference in its symptoms and intensity. The three varieties are. Scarlatina Simplex Scarlatina Anginosa. Scarlatina Maligna. While they differ very greatly in intensity the disease is the same. The eruption on the surface and the morbid appearance of the

throat are the principal constitutional
characters of the disease. The eruption
is caused by hyperemia together with
edematous swelling of the skin.
In mild cases the mucous membrane
of the tonsils soft palate and
pharynx is reddened and slightly
swollen while the tonsils themselves
may be enlarged. In the severe
form of the disease these symptoms
are more marked. The swelling
is extreme and the mucous
and sub-mucous layers may be-
come infiltrated with pus. Abscesses
may form on the tonsils and frequently
on the adjacent part
which may end in very destruct-
ive ulceration or in Gangrene
Frequently the inflammation

resembles the Diphtheria inflammation very closely but confines itsself to the tonsils soft palate and pharynx. - Several Complications are quite likely to occur, as Suppurative Median Ostitis. Swelling and inflammation of the glands of the Neck. Lobular Pneumonia, Parenchymatous Degeneration of the Liver and Heart and Kidneys, the Kidneys in particular frequently become affected and cause a great deal of trouble. and is as likely to occur in mild cases. as in severe ones.

An attack of Scarlet fever usually commences with a chill. occasionally it is wanting Vomiting is an early symptom. and the pyrexia is greater than in other eruptive

fevers. [illegible] the head which differs according to the severity of the case, prostration and general malaise. the fauces become red and swollen and the patient suffers pain in swallowing. In mild cases these symptoms are very slight and patients frequently are not compelled to take their beds. The affection of the throat is due to the efflorescence which appears in this part before it does on the skin. the eruption makes its appearance on from the first to the third day and usually on the body and limbs first. Sometimes it appears on the neck and face first. but I have

generally found at to make
its first appearance in the
flexures of the arms and legs.
it rapidly diffuses over the
cutaneous surface, usually in from
twelve to twenty four hours after its
first appearance at first it is
in the form of minute dots. these
soon coalesce and form irregular
patches varying in size and shape
the redness is most marked and
remains visible the longest in
the inner surface of the arms
thighs and flexures of the joints
where the skin is most delicate
the redness disappears on pressure
but returns at once after the pres-
sure is removed. the surface is
covered with papilla

always developed. Then we have the condition known as "Goose flesh" there is more or less swelling about the patient particularly the face and feet. The eruption attains its maximum about the fourth day after its first appearance. The amount of eruption differs in different patients. Sometimes the eruption will disappear after its first appearance and again reappear. The eruption is most marked when the fever is the highest. I saw in two cases out of thirty the lymphatic glands at the angle of the jaw swell, and in one of these suppuration followed which gave great annoyance. After the patient died of dropsy a week to the fever

The tongue is coated only in
the disease but on the progress
of the disease the coating leaves
the tongue then its surface is
clean and reddened while the
papilla are enlarged thus giving
it an appearance resembling a
ripe Strawberry. This being peculiar
to this disease it is of value as a
characteristic Symptom of the dis-
ease. but I think it is not always
present. — The fever increases
generally after the appearance
of the eruption. The skin is dry
and the pulse quick ranging
from 90. to 130. beats per minute
and in very severe cases higher
especially in children. The tem-
perature ranges from 103° to 106° F

and in extremely severe cases it is still greater but is generally fatal if over 107°. During the stage of eruption there is want of appetite and often vomiting the bowels are usually constipated, but sometimes diarrhoea exists. Delerium is apt to occur except in very mild cases. The duration of the stage of eruption varies a good deal, but usually lasts from six to eight days. Desquamation begins with the decline of the eruption and its extent is generally in proportion to the intensity of the fever and the extent of the eruption. It exfoliates in minute scales sometimes and sometimes

in quite large pieces of epidermis especially the hands and feet. When the disease pursues a favorable course, the fever diminishes when exfoliation commences. Desquimation is allways attended with pruritis which is sometimes excessive, this stage is completed in from ten to fifteen days. In very severe cases these symptoms are augmented especially when there are severe complications. the pulse may rise to 150 or more per minute and the thermometer in the axilla show excessive fever there may also be great restlessness, Delerium, Convulsions Coma, or other symptoms showing

the severity of the disease condition may take place in a few hours after the attack begins. Cases of this kind are malignant- and are liable to occur in epidemics of the disease. Disease of kidneys is an important complication in nearly all cases of Scarlet fever and the danger from Uremia is in proportion to the scanty secretion of the urine. The lining membranes of the secreting tubes of the Kidney take on a morbid condition similar to that of the mucous membrane of the pharynx and constitute a serious local affection in proportion as the secretion of urine is lessened. Seminal

Dropsy may occur during the progress of the disease as well as afterward. Symptoms pointing to uremia besides. Delerium, convulsions, Coma, are. Cephalgia. disturbance of respiration with Bronchitis Pneumonia or other Pulmonary affections. Defective Vision, Vomiting &c. The inflammation may extend from the throat through the Eustachian tube to the middle ear and may cause perforation of the Tympanum thereby causing deafness. there are many other Complications which are likely to occur, which I think not necessary for me to mention. That Scarlet fever is contagious is established beyond a doubt I think

and the contagium from mild
cases seems to be as efficient as
that from severe cases. and is
contained in the emanations
from the body. possibly in both
the expired breath and the cuta-
neous exhalations. therefore
the air surrounding patients
is infected. The contagium
preserves its morbific powers
for a long time and may be
diffused by being carried on
the clothes of persons who are
with those who are affected with
the disease. the disease is seldom
experienced more than once
The Diagnosis of this disease is ren-
dered pretty easy in most
cases by the short stage of invasion

the intensity of the fever. the appearance of the efflorescence in the throat before the appearance of the eruption on the skin, and by the rapid diffusion of the eruption over the surface. the irregular margins of the patches of eruption, also the persistance or increase of the fever after the appearance of the eruption.

Most difficulty is found in diagnosing mild cases with slight eruption and without efflorescence in the throat. such cases might be mistaken for Rosea.

The prognosis is unfavorable in cases in which there is very severe affection of the throat and especially so. if Diphtheria

is developed during the progress of the disease or as a sequelle. Great enlargement of the glands of the neck with suppuration independent of Diphtheritic inflammation denote great danger. should gangrene of the throat and mouth occur. or laryngitis a fatal result may be expected.

Treatment

In mild cases no active treatment is called for as far as the disease itself is concerned. but inasmuch as grave complications or sequelle are allmost if not alltogether as liable to occur with or after mild cases

of scarlet fever as of the more
severe forms. We should watch
the course of them just as closely
as the severer cases. so as to
be able if possible to controll
such complications as they
may make their appearance
Hence in mild cases bromide
treatment is about all that is
required. free ventilation cooling
drinks light nourishment and
measures to maintain the func-
tions of the skin. for when these
measures are maintained there
seems to be a less liability to
an affection of the kidneys, as
so much which seems so hard
to occur during or after the
dis

A tepid bath once or twice a day seems to be indicated for this purpose. When that is not practical repeated sponging of the body may be resorted to in its stead. While there should be free ventilation exposure to cold should be avoided both during the progress of the disease and during convalescence. Constipation should be relieved by mild cathartics or simple enemas. While the many other complications which are likely to arrise should be treated with appropriate remedies.

In some cases the intense fever which is denoted by excessive fever and frequent pulse are the

leading indication here
to diminish the heat and fre-
quency of the heart's action
is a very important object
for this purpose as in other cases
of fever. Full dose of Quinine has
the desired effect usually.
The cold water treatment is
I think very efficient but
I find that in nearly every
instance the parents will re-
monstrate against its use
I have only had one opportun-
ity to use it, then it did all
that could be expected of it.
Which was fortunate for me
at least for had the fever termi-
nated fatally I have no doubt the
popular opinion would have been

that the treatment was more fatal than the disease.

The affection of the throat is usually successfully treated with Chlorate Potassa, free use of Iced drinks &c. When the affection is very severe, I use Permanganate Potassa of in solutions of various strengths according to the indications. There is a number of other remedies useful particularly Carbolic acid.

The following splendid.

℞ Chlorate Potassa ʒ ij ss
Monsels Solution ʒ ij
Carbolic Acid ʒ ss
Glycerine ℥ ij
Water ℥ vj

use as spray, Gargle or if the exudation

glands for down. The throat
Forbid the patient to swallow as
slowly as possible a tablespoonful
three times a day,
For glandular swelling I
paint the part with Iodine
if suppuration ensue I poultice.
Pruritis is best relieved by Vas
aline. Renal disease is a
usual complication and
must be treated the same
as when it occurs in other
pathological connections by
diminishing the inflammation
promote resolution and
restore the secreting functions
of the kidneys, remove the
dropsical effusions, and if uremia
is threatened eliminate

the [illegible] through the skin
and gastro-intestinal mucous
membrane. hence Rest
warmth of surface water and
and other liquids revulsives
over the loins fomentations
over the regions of kidneys
Saline laxatives are indicated.
if there is much dropsical
effusion eleterium is the best
and most efficient hydrogogue
remedy. Jalap and Cream tartar.
Gamboge, Podophylin are all
good, hydrogogues.
Restlessness and Vigilance
may require anodyne reme-
dies Belladonna Opium pre-
fered. but Opiates must be
used with circumspection

especially in young children.

External otitis of malarial origin terminates in deafness. Daily cleansing the ears with tepid water and soap, will usually be all that is required. Sometimes mild astringent injections may be used with success.

One other important matter is that whenever the disease involves a tendency to death by asthenia our chief reliance must be on sustaining measures when there is great feebleness of the pulse with general prostration & some form of alcohol is indicated. I find the use of whisky and milk

the best measure for sustain-
ing the strength. I give it in
the proportion of one part of
Whiskey to two parts of milk
in doses as indicated by
the age and strength of
the patient.

G. Miller Couch

Feby 1883.

V. Mace
Balto. Co.
Md

Gentlemen:-

I respectfully submit to you my views on one of the most dangerous enemies of Childhood viz Scarlatina.

This disease may be defined to be an acute infectious disease, and Characterized by a scarlet eruption with fever and sore throat.

It is divided into three forms viz Simple, Anginose, and Malignant.

In the first there is no affection of the throat. In the second there is a decided implication of the fauces. While the third or malignant is the severest type with extensive suppuration possibly gangrene.

Scarlet fever usually attacks children in the midst of perfect health.

The usual prodromata of all febrile affections ill humor anorexia drowsiness, more or less severe headache, are almost always associated with hurried

and vomiting and even after with pain in neck on swallowing, which is rarely absent, increased heat of skin and thirst.

The duration of the prodromal symptoms varies, but is shorter than in other infectious diseases as the eruption appears within twenty four hours from the appearance of the first symptoms, and sometimes much earlier.

Occasionally the scene is opened by a chill or a sudden syncopal attack

immediately followed by high temperature; the disease is much more rarely ushered in by an epileptiform attack

The eruption usually appears first on the neck and thorax a few hours later on the arms especially about the flexures of the joints, or perhaps on the face and in the course of a day it spreads over the trunk and lower extremities

It does not advance so regularly from the face downwards as measles and

Small Pox. In general the moderate grades of eruption prevail; the skin when seen from a distance presenting a diffuse more or less scarlet redness, while, on closer inspection, it is found that the redness is composed of innumerable red points closely situated together, and separated from one another by very small spaces of skin. The dark red points appear to correspond to the hair follicles.

When the eruption reaches

its height it remains stationary from a half day to a day, and then it slowly declines

When the eruption first appears on the face the redness of the temples, forehead, and cheeks contrast vividly with the pallor of the lips.

As in all exanthemata the hands subject to pressure especially the back and wrists present the most marked and distinct redness; often also the chest and abdomen, while the redness is less marked on the extremities.

or appears in large patches, separated by brighter parts.

The redness disappears on pressure, but returns immediately on removal of the pressure.

If the hair-follicles are much swollen, the skin will appear rough.

There is no diminution of fever on the appearance of the eruption, but rather an increase and it continues uninterruptedly as long as the exanthem remains on the skin, which is generally from four to six days or the

average.

The eruption is rarely completed before it begins to fade on those parts where it first made its appearance.

As the eruption disappears boils may be observed, and more or less general sloughing may occur in low states of the system, merely from pressure.

Desquamation of the epidermis may come on soon after the eruption has disappeared. The thick and hard epidermis of

the hands and feet sometimes peels off in large flakes. Desquamation usually lasts several weeks and during this time temporary albuminuria is not unfrequently observed.

Some children complain from the beginning of pain in the neck, especially in swallowing, and examination shows a redness and swelling of the tonsils, velum, and posterior wall of the pharynx.

In some cases there has been observed, even during the first few days, small

extravasations of the blood on the mucous membrane of the palate, and the uvula, unchanged by hawking were then tinged with blood.

The reddened parts are much more often covered here and there with mucous, which can be readily removed, or small purulent points are observed on the tonsils. The physician should be very careful not to mistake them for diphtheritic patches.

The buccal mucous membrane is almost always reddened, usually bleed on

firm contact, and the
tongue, which, during
the first few days, presents
a yellowish white coating,
with red edges, generally
exfoliates this after the
third day, and then has
a more uniform dark
red color, the more or less
swollen and prominent
papillae increasing the
resemblance to a strawberry.
This condition, though
not constant, is so frequent
as to present a characteristic
significance.
In the eruptive fevers

away, the inflammation of the buccal and pharyngeal mucous membrane gradually disappears, and only a few slightly swollen glands remain below the angle of the jaw.

From the end of the first week the child is convalescent.

At this time the desquamation begins, so much earlier the more intense the redness of the skin has been.

The continuance of the fever after the disappear-

ance of the eruption is of great prognostic importance, and is generally due to three morbid conditions 1st Continuance of the pharyngitis, which assumes a necrotic and ulcerative character. This local process may last two to three weeks 2nd The involvement of a glandular and phlegmonous inflammation below the jaw, the sub-maxillary glands are swollen in the first few days of the disease. The swelling may become considerable

from collateral oedema, spread upwards to the ear and downwards along the neck.

Almost all these phlegmons suppurate, as a rule towards the end of the second or in the third week. The fever often recurs with chills after the removal of the pus.

3rd Otitis is a very frequent cause of prolonged fever. The staphylococcus may enter from the external auditory canal

and produce otitis externa, with furuncular abscesses, but this is much rarer than otitis media due to extension of inflammation along the eustachian tube.

With the appearance of purulent discharge, the pains, but not always the fever, terminates. On examination with the speculum reveals perforation of the drum membrane. The most of these perforations usually cicatrize within a few weeks under simple treatment.

Much more rarely the inflammatory process is so violent that complete deafness is present by the end of the second week of the disease and the discharge is extremely fetid.

Attention should be directed to the serous membranes. Pericarditis or pleurisy are occasionally found on autopsy, the symptoms of which were either latent or concealed by those of a malignant character.

The mucous membrane of the bronchi and the pulmonary parenchyma are often subject to inflammation in scarlet fever. It is only rarely but more or less extensive bronchopneumonias occur during the first and second weeks of the disease, but are often overlooked as they are masked by other severe symptoms of a typhoid character.

The complication of scarlatina with bronchopneumonia or pleuropneu-

monia is always very dangerous, but not absolutely fatal, as cases do sometimes recover.

Any prognostications in regard to the course and termination of a case of pneumonia should be guarded; for no disease is more uncertain.

The chief prognostic significance must be attached to the pulse. So long as the pulse is only moderately frequent (120–130 beats according to age), and retains almost its normal tension and

fulness, we should not give up hope, however grave the other symptoms may appear.

The prognosis is fatal, however, if the pulse becomes very small, readily compressible, dicrotic irregular, but especially extremely frequent.

On post-mortem examination no lesions of importance are to be seen, because the changes are of a subtle kind, occurring chiefly in the blood.

Various sequelae may develope after the acute process has terminated; among which Nephritis occupies the first place. Then we must fear the sequences of otitis media its spread to the bones, finally, implication of the sinus and meninges, or paralysis of the facial nerve, and permanent deafness.

Among the frequent sequelae must also be mentioned abscesses of the neck, back eyelids,

and the immediate vicinity of the joints.

Relapses of Scarlatina occasionly occur, though much more rarely than in Typhoid fever. After the fever has disappeared for a few days or weeks even, and desquamation has progressed in a normal manner, the eruption reappears with a sudden exacerbation of fever, and the disease runs its course a second time.

The susceptibility

to scarlatina is present during all periods of childhood, but is least marked in children under two years. The period between three and eight years is chiefly affected, but it does occur in the aged as Bartholow had under his care a patient sixty years of age, with Scarlet fever after caring for several of his children with this disease.

Concerning the character of the infection, we possess no certain in-

formation.

There is no doubt that inspiration of the air surrounding a patient produces infection most readily; probably, though not certainly, the virus may also be carried in clothing and food.

Individuals with open wounds possess an increased susceptibility for the scarlatina contagion.

At what period of its course scarlatina is most infectious, we do not know, and must therefore

isolate the patient as much as possible during the entire period of the disease, until the termination of desquamation.

If we except relapses, a second appearance of scarlatina in the same individual is very rare.

Death from a second attack is unknown.

I finally come to the treatment of the disease.

We possess no specific against this disease, as our treatment must be directed to the symptoms as they

arise.

Belladonna is thought by some to be a prophylactic against this disease but I believe the majority of the profession is opposed to its use in this way.

In normal cases which are free from complications no drugs are required.

The child should be isolated as much as possible from the brothers and sisters or the latter removed from the house.

Pure air and cool temperature should be

urgently recommended;
the windows should be
opened at least in an
adjoining room the child
covered lightly and the
room darkened only when
photophobia is present.

If the stomach be over-
loaded you may give
Ipecac. In constipation
give a mild laxative
To allay excessive itching
sponge with vinegar and
water or cold cream +
glycerine.

For injuries of
if child is old enough should

frequently gargle his throat with hot milk or juices of ice may be held in the mouth and allowed to melt slowly.

For stiff neck may use locally Soap and Camphor liniments and Tr Opium.

Should diarrhoea be present with vomiting, an excellent means for arresting both consists in the use of Bismuth and Carbolic acid.

May give Sulph Quinine to reduce temperature.

When deglutition is
inhanced by swelling of
pharynx you should give
twice a day a nutritive
enema of beef tea.

Should there be active
delirium during the erup-
tive stage, the most effec-
tive treatment for the re-
lief of this condition is
Bromide of potash and
if the hearts action be
good, chloral.

During desquamation
flat inunctions should
be used.

Kidney complications

demand treatment which
which shall be adopted
in the condition then
present.

In convalescence
give certain drinks
and ice, with warm
applications outside.

The patient should
not be allowed to go out
before about the fourth
week.

Thesis of
J. W. Holstein

The occurrence of febrile paroxysms in regular succession, and absence of febrile movement between the paroxysms, is characteristic of intermittent fever. This disease is known by a variety of names viz. "fever and ague," "chill fever" "Panama fever".

Causation. The cause of this disease is not well understood. The morbific agent as yet has not been isolated but is commonly known by the name Malaria. It undoubtedly has a special cause.

[illegible]

cause is said to be vegetable decomposition, in a low moist warm atmosphere. But that something more than simply vegetable decomposition must exist is evinced by the fact that it does not occur where vast amounts of vegetable decomposition is going on. Observation shows that it is generated more especially in marshy situations.

Its specific [illegible] to keep it near the surface of the earth. [illegible]

[illegible]

The chill is sometimes very slight, creeping sensations only being felt by the patient, at other times it may be very severe. Rigors may or may not accompany the chill. The general appearance of the patient is as if they had been exposed to severe cold.

If the thermometer is [illegible] in the axilla or under the tongue it is found that the temperature is raised, but if applied to the extremities, the temperature is lower than normal. During this

[illegible] the countenance presents
an expression of anxiety [illegible]
face and lips are pale.
Lividity is often well-marked
at the root of the [illegible]
[illegible]. This stage may last
only a few minutes or it may
last an hour. The pulse is
usually accelerated, small
and feeble. In young chil-
dren convulsions may occur
in this stage. In as much as
there is less blood [illegible]
surface vessels and [illegible]
mass of blood [illegible]
ed, of necessity, internal
congestion must occur.
This stage is characterized
by [illegible]

[illegible]

[illegible]ated, and sounding, the skin is [illegible] dry. The [illegible] continues and the face is [illegible]. The temperature at this time rapidly increases, perhaps reaching 104, 105 or 106 Fah. The duration of this stage is variable, lasting from [illegible] to eight hours.

Inspiration appears first on the face, afterwards on the trunk and extremities. [illegible] of the symptoms at this time [illegible] to disappear. The [illegible] of surface, headache, [illegible] &c. cease, and the [illegible] generally [illegible]

[illegible]

sometimes profuse and sometimes slight, different cases differing very much in this respect.
The reading is evidence that the febrile movement is about to disappear. Urea, uncreased, the chlorides and sometimes albumen, is increased in the urine, during this stage.
The space of time between two successive paroxysms, is called the intermission.
The period from the beginning of one, to the beginning of the next paroxysm is called the interval.
There are three simple types of intermittent fever, viz

type. In the quotidian type, the
paroxysms occur every
twenty-four hours. In the tertian,
the paroxysms occur every
forty-eight hours. In the quartan
the paroxysms occur every
seventy-two hours. Of the three
simple types the quotidian and
tertian are most frequent.
The type changes in the course
of the disease in some cases.
Two sets of paroxysms of the
same type coexist. Paroxysms
may occur at any hour, but
they most often occur before
noon. During the intermission
some patients are almost free
from [illegible]

indefinite. It sometimes ends spontaneously, after a few paroxysms, but in most cases it lasts for weeks or months, if not arrested by [illegible]

The diagnosis in [illegible] cases is not difficult. The cold, hot and sweating stages, recurring at regular intervals [illegible] the [illegible] sufficient [illegible] for a diagnosis. In pulmonary tuberculosis, paroxysms resembling those of intermittent fever are sometimes observed, but they occur in the [illegible] and the symptoms and signs of tuberculosis, are sufficiently well acted at this stage of the disease as to offer no great difficulty in the diagnosis.

[illegible]

immediate danger, is not a grave affection. But if the disease continues for a long time it may prove [illegible] ately serious by reducing such a state of [illegible] as would induce general dropsy.

The treatment must be divided into curative and palliative.

Curative — Of the whole [illegible] of remedies that has been used, Quinine and Arsenic, are the most efficient. Sulphate of Quinine, given in sufficient amount, usually cures the disease. Some practitioners rely on it altogether. It is claimed by many writers on the subject, that the administration of the drug should be commenced as soon after the [illegible] as possible

some [illegible] of [illegible] the [illegible]

stage. After the paroxysms are re-
ested, the administration of the drug
should be continued in small doses
for several days, in order to prevent
their recurrence. "Fowlers Solution of
Arsenic" given in doses of ten or
twelve drops three times a day, is
also an efficient remedy. This rem-
edy is generally used in the more
chronic forms of the disease,
but it is used in recent forms,
when from some cause the patient
cannot tolerate the quinine salts.
Salicine, is successful in breaking
up the disease in a certain num-
ber of cases. Strychnia, Nux vomica,
Eucalyptus &c have all been used
with success in some cases.

are to be given. If general dropsy
occurs build up the general health
with the appropriate remedies. Dry
good food, good air, tonics &c.
In enlargement of the spleen, large
doses of Tinct. Iridin. and Iodide Potass.
may be given with advantage.
A fall of rain at the beginning of
the cold stage, often appears to cut short
the severity of the paroxysm. Sinapisms
and dry cups applied to the spine.
External warmth applied by means
of hot bottles. Stimulants may be
given internally. Chloroform has been
given with good effect. Sponging the body
with cold or tepid water during the
hot stage may give comfort.
Pieces of ice may be taken

[illegible]

Cooling drinks may be allowed).
The body may be wiped with
warm flannel cloths during
the sweating stage with gum
comfort to patient. I might
here add that mucosity has
been given by some practitioners
with apparent good effect,
especially in the beginning
of the disease when the
tongue is furred and the
bowels constipated.

Dysentery

Definition — The term dysentery is used to designate an inflammatory disease of the large intestine characterized by [illegible] and bloody defections and by tenesmus.

Dysentery in America is [illegible] is because so "bloody flux" but referred by as ulcerative colitis

Causes — Dysentery occurs at all ages and in both sexes. A larger number of males than [illegible] are attacked, but the preponderance is not sufficient to show that a marked predisposition relates to sex. Of the most common causes are, cold and dampness, and the arrest of perspiration by exposure to cold. The influence of the climate has a great deal to do with its

[illegible]

the year when change of temperature from night to day is greatest as in the late summer and autumn and in warm rather than cold climates.

Crude articles of food producing irritation of the mucous membrane

Excess in eating and drinking, indulgence in acid, unripe fruit &c

Fluxes [illegible] in its production. Depression of vital powers by fatigue, watching, [illegible] &c

Unfavorable hygienic conditions

As an epidemic dysentery is a prevalent disease in armies, in jails, [illegible] numbers of human beings are crowded together under unfavorable hygienic conditions

and ulcerative colitis may be induced by the macerations from fecal accumulations and products of animal decomposition. dysentery unlike contagious and infectious diseases one attack does not confer immunity but the tendency is increased by the number of attacks

Pathological Anatomy.— Our knowledge of the pathology of dysentery embraces the anatomical effects time, the local and general phenomena which make up the clinical history being symptomatic of this affection. The structural alterations of dysentery may be

divided into two groups catarrhal or sero-purulent and croupous or fibrinous. Catarrhal form. intense hyperaemia, mucus membrane of a deep reddish color dotted with blackish points the redness is not universal but at the summit of the mucus folds the congestion is not limited to the mucous but extends also to the submucous connective tissue hence - their is over production of mucous as a result of this congestion, which adheres to the membrane and the follicles enlarge from an accumulation of their contents while [illegible] around them the vessels are enlarged.

The submucous tissue is infiltrated

with serum and becomes greatly thickened. Softening of the mucous membrane now takes place and becomes detached leaving here and there portions of membrane with ragged edges. The follicles are last to slough out. This disintegration of the mucous membrane is on account of the accumulation of puss-cells within the intestine, the swollen vessels increase the pressure. Softening takes place rapidly if the destruction is not too extensive. Recovery may take place, but more rapidly before the softening begins, where softening has taken place the

repair is brought about by the formation of cictrices which are devoid of gland structure

Fibrinous form. In this form the alterations of structure are very different although like in the catarrhal form we have extensive hyperaemia but as to locality it differs there is a universal deep bluish-red congestion of the lower end of the ilium and all of the colon. infiltration of blood occurs through the whole tissue of the mucous membrane. Fibrinous Exudation takes place The proper structure of the membrane

disappears entirely, except remains of tubular glands. The membrane now book whitish or a reddish white dotted over with blackish and reddish spots. The membrane changes into a dense porch ment like and somewhat unyielding tissue most of which is deposited fibrin. Gangrene will follow if patient live.

On Post Mortem the changes found are due to both forms Catarrhal and fibrinous.

Where the fibrin predominates the color is of a reddish white if local gangrene appears we will have patches in size from a cent to a silver

dollar, repair is possible only when a small extent of the mucous membrane has been destroyed by gangrene. When the morbid process is arrested granulations spring up and excavations closed by cicatrices — the structural alterations are not limited to the mucus, sub-mucous and muscular layers. If the ulcers reach the peritoneum it becomes cloudy fibrin exudations take place adhesion to neighboring surfaces. If death does not close the sense we may have perforation and peritonitis. Hyperaemia and enlargement of the mesenteric glands takes

[illegible] and softening and breaking down into abcesses

Abcesses of the liver very common in this disease on account of the portal vein being obstructed. Heart and lungs are often effected.

Symptoms. — In the Epidemic form dysentery may begin suddenly without any preliminary symptoms and with great violence but in the Endemic form and Sporadic and in milder cases during epidemics there is usually a preliminary stage there is more or less catarrh of the intestine, diarrhoea,

Chilliness followed by slight fever towards evening when actual dysenteric symptoms come on which happen in two or three days after the preliminary period, very decidid abdominal pain is felt along the course of the decending colon and about the sigmoid flexure and is increased by pressure at these points. the abdominal pains felt also some what about the umbilicus and are called colicky pains. we have pain of a burning character in the rectum and the sense of the presence of a foreign body with the desire to strain for to expel it

The patient goes again and
again to stool and makes strong
efforts at expulsion, but instead
of any faeces being discharged he
only brings away some jelly-like
matter and [illegible]
or with blood and now and
then a hard ball of faeces but
without any relief; tenesmus
or the feeling of bearing down
and the burning pain felt in
the rectum and through
the hips continue as before
so the patient finds it impos-
sible to quit the stool or [illegible]
[illegible] few minutes and each
time he sinks into his bed
exhausted and unrelieved

In the beginning of [illegible]

before the characteristic stools
show themselves. There are
loose frequent discharges [illegible]
mucus mixed with [illegible] [illegible]
[illegible] [illegible]. The faeces
are no longer present in
the evacuations. They consist
of a greyish [illegible] [illegible]
[illegible] mucous [illegible]
or [illegible] with here and there
white [illegible] [illegible] [illegible]
[illegible]. To [illegible] of days
about the second or third day
blood appears in the [illegible]
increased [illegible] of the mucous
[illegible] [illegible] [illegible] [illegible]-
ed in the stools there is not

[illegible]

drink and [illegible] matter from the gall bladder. In severe cases the bladder is also affected tenesmus the urine is scanty and high colored and acid and therefore irritating the bladder becomes very sensitive and a very small amount of urine in it will excite tenesmus and in the straining [illegible] bladder and rectum are similarly affected. In mild cases there may be from ten to twenty stools daily in severe cases forty or fifty the severity of the case depends a great deal on the frequency

of the stools when the stools
[illegible]
a good indication when the chara-
teristics improve. The bodily
force is quickly imparied and
even in mild cases of dysentery
considerable emaciation occurs
and return to health is [illegible]

In severe cases Systemic
infection results from the
products of [illegible] and
from gangrene. The weakness
early reaches the point that
the patient is unable to leave
his bed the evacuations pass
without control. The anus
and neighboring parts become
excoriated and bed sores quickly

[illegible] The [illegible] ee [illegible]

ions expression and is pinched the skin dry, harsh and wrinkled pulse small quick and feeble. The discharges have a dreadful bad odor

If depression be great Collapse will follow heart beats very feebly pulse ceases at wrist skin covered with sweat and cold the hands and feet [illegible] and livied and obstinate hiccough comes on. The voice also becomes husky the eyes sunken and considerable stupor. Collapse [illegible] on gradually but patient pass suddenly into it by reason

of perforation of the [illegible]
followed by peritonitis in this case death may not take place immediately but the patient may remain in this state for several days.

Complications

Peritonitis is a usual complication but not necessary due to perforation. Repetitions are due to the milder than the more severe forms of dysentery various complications may arise during an attack of this disease.

Course & Termination

A mild attack of dysentery begins usually with diarrhoea

[illegible]

[illegible] four days to a week and the period of improvement will last about that long. So that the whole duration of such cases will be about three weeks while recovery will last a month.

The termination may be [illegible] recovery or in chronic dysentery. When it terminates thus the more severe symptoms subside the stools improve in character but never become entirely healthy. Patient may be able to [illegible] out of bed and about or may just be able to sit up for a little while.

each day. degenerations of the [illegible] and [illegible] result being anasarca and albuminuria. Narrowing, contraction and deformation of the bowels effect of which is to impair nutrition and assimilation so that patient may be seeming to recover and strength diminishes. The patient also loses [illegible] flesh and may die of exhaustion

Diagnosis — is not very difficult: the characteristic evacuation are nearly sufficient to diagnose the case. dysentery [illegible] is to be discriminated from

cases of [illegible] and

[illegible] of the rectum incident-
tal to hemorrhoids of intestinal
hemorrhage; and of the disch-
arge of pus from an [illegible]
[illegible] into the alimentary
canal. The points of contrast
with dysentery which these
cases offer are sufficient
[illegible]

Prognosis.— Sporadic
dysentery tends to recovery
in temperate climates.
It is a very distressing
disease but attended with
little danger to life. A [illegible]
result is due either to an unusu-
al intensity and extent of the

from infection or from inability
of the system to resist the
disease from weakness of the
constitution. The prognosis
in tropical climates is not
favorable. The recovery in
temperate climates is nearly
always complete, and many
cases in chronic dysentery
[illegible] from any
other disease in the tropical
climates are frequently [illegible]
[illegible] as a sequel
but not so oft in temperate
ones indeed it is rare.

Some authors think that
immediate relapses are not
apt to occur others the reverse

Treatment — Dysentery

You might say [illegible] a self limited disease, and in a majority of cases would end in recovery without any Medicinal treatment. But their is reason to believe that the disease is some times arrested in its course and suffering greatly relieved by proper treatment.

The fecal contents should be removed from the large intestine as early as possible in order to prevent their continued passage over the inflamed surface and endeavor to secure as far as may be rest of the

[illegible]

nature in her work to relieve the bowels ascertain if the bowels have been [illegible] relieved also the size and character [illegible] stools and examine the abdomen by palpatation In general, it is advisable to assist nature to relieve the bowels of their contents by giving an effective [illegible]gative Castor oil has been in much repute as an appropriate remedy. but the objection to is use is that few persons can take castor oil without disgust in such cases the saline cathartics are

To be preferred say. the Sulph. of
Magnesia may be employed.
The saline selected should be given
in sufficient doses to produce
frequently abundant dejections
and then withdrawn the drug
After purgation opium, in some
form; should be given.
Either by the mouth or given
as a suppository this will
sometimes succeed in arrest-
ing the disease and may
afford marked relief
The objection to giving by the
rectum is that it is not always
retained We might combine
the use of Sub Nit Bismuth
in scruple or half-drachm doses

The various vegetable astringents such as Kino, Catechu &c.
also the Mineral astringents as acetate of Lead the Sulph of Copper.
But the Chief reliance should be in the use of Castor oil or the saline Cathartics followed by opiates.
Fomentations and mild applications over the abdomen useful.

Finis

Subject Dysentery

by

T. M. Skinner

Pa

Sess; 1883.

has often resulted from too protracted and too violent attempts at reduction. Bones have been fractured, tendons ruptured, and even the large vessels of the limb have been torn during such attempts. Still more frequently the pressure of the bandages produces troublesome sloughing, which when the part is of small size as the thumb, may even cause the loss of all its remaining usefulness. If it be found necessary to abandon a case of dislocation, the patient may be comforted with the assurance that his limb, though

it will never do or resume as before, may yet recover a good deal of motion and this is especially true in such joints as the hip and the shoulder. The ultimate result of such cases is that the displaced bone forms for itself a new socket in which a considerable amount of motion is allowed. In gingly[illegible] joints the result is usually less favorable, though even here they may do well if passive motion be kept up.

Partial Dislocation is rarely met with in the large enarthro-

-dial joints, while in the joints formed by the application of large broad surfaces it is more frequently seen. The symptoms of partial would be the same as those of complete dislocation, only less strongly marked, viz. sudden loss of motion, deformity, and etc. In the case of a deeply seated joint it may be difficult to distinguish a partial dislocation from the effects of a severe contusion, or from an impacted fracture, and for the time being, the diagnosis may be rather un-

certain. In some articulations however such as the knee, where the bones are in contact by very broad surfaces, any dislocation which occurs is almost necessarily partial, and here the diagnosis can generally be easily made. The treatment must be regulated by general principles, even though the diagnosis remain somewhat doubtful. The limb must be manipulated, under chloroform or ether if necessary, until its axis is natural and its length corresponds with the limb of

the opposite side, and it is impossible entirely to free passive motion. The limb must then be confined in this position for as long a period as may be necessary.

Compound dislocations are accidents rarely met with unless complicated with fracture. Though they may occur at the ankle-joint, or at some of the articulations of the fingers. The prognosis in compound dislocation of large joints is highly unfavorable, and in any joint ankylosis will most probably ensue, though

in the fingers it may sometimes be prevented by timely passive motion

Special Dislocations.

Dislocation at the shoulder-joint. The humerus is dislocated nearly as frequently as are all the other bones of the body together. The peculiar structure of the shoulder-joint; the shallowness of the articular surface of the scapula, the large size and globular form of the head of the humerus, and the very extensive movements of the arm, are all circumstances

which contribute to the facility and frequency of dislocation. Dislocation of the humerus is an accident chiefly met with in middle and advanced life; it is extremely rare during childhood and youth. The three principal varieties of this dislocation are: First, Subcoracoid, where the head of the bone is displaced forwards and inwards. Second, Subglenoid, where the head of the bone is displaced downwards. Third, Sub-spinous.

where the head of the bone is displaced backwards. Subcoracoid dislocation, which is the more common variety, may be produced in either of two ways: 1st, by a direct force applied to the upper part of the humerus, driving it forwards and inwards, as a blow or fall upon the shoulder. Second, by a forcible elevation of the distal end of the humerus, such as may be caused by a fall upon the elbow or hand when extended. In this variety of dislocation the

patient complains of pain about the joint, especially on the inner side of the head of the bone along the course of the great nerves of the brachial plexus, sometimes extending down the arm as far as the fingers and accompanied by a sensation of numbness. The patient is quite unable to move his arm at the shoulder; the elbow projects from the side, and cannot be made to touch the chest without causing pain; and it is impossible, while the elbow touches the thorax,

to place the fingers of the
injured limb upon the
sound shoulder. The movements
of the forearm and hand are
not impaired. The natural
roundness of the shoulder is lost,
the acromion appears remark-
ably prominent, and beneath
it is a depression into which
the fingers can be pressed.
The limb in the majority of cases
is slightly lengthened as
compared with the limb of
the opposite side. The anterior
fold of the axilla is deeper
and fuller than natural,
and the pectoral muscle is

raised by a rounded swelling which partly obscures the subclavicular fossa. Depressing the fingers in the axilla the upper and anterior part of this space is found to be occupied by the head of the humerus, here covered only by integument and moving readily with every movement communicated to the elbow. The head of the humerus lies on the anterior surface of neck of the scapula immediately ~~on the neck of~~ below the coracoid process. The muscles that descend from the

coracoid processes to the humerus are retained by the projection of the head of the humerus forwards, and the great vessels and nerves are displaced inwards. Occasionally the circumflex nerve is pressed upon to such an extent as to cause paralysis of the deltoid muscle. In time, if the dislocation is allowed to remain unreduced, a shallow socket is formed upon the anterior surface of the neck of the scapula, partly by the absorption of the bone, and partly by the deposit of new material around the edge

"Subglenoid Dislocation."

In this variety the head of the bone is thrown below the glenoid fossa, rather forwards and inwards, and may be felt readily in the axilla. The symptoms are much the same as in the subcoracoid variety, but rather more marked. The depression beneath the acromion is greater, the arm is separated farther from the side, and is usually lengthened. The distinction between this dislocation and the subcoracoid variety is the interval of from

an-half to one inch felt between the coracoid process and the head of the humerus. This variety is rarely produced by a direct blow or fall upon the shoulder and usually merges into the subcoracoid.

"Subspinous Dislocation." In this variety the head of the bone is displaced backwards, and may rest either on the posterior edge of the glenoid fossa, on the back of the neck of the scapula, or more rarely on the dorsum of the scapula below

the spine. The symptoms vary according to the amount of displacement of the head, being proportionately more marked as this is farther removed from the glenoid cavity. There is always the flattening of the shoulder and prominence of the acromion common to all luxations of the humerus. The head of the bone covered by muscles forms a marked protuberance on the back of the scapula, immediately under the posterior angle of the acromion. In front

between the head of the bone and the coracoid process is a considerable depression. The length of the limb is unaltered, or but slightly increased. It is generally applied close to the side and rotated inwards, with the elbow usually advanced. The most frequent cause of dislocation forwards results either upon the shoulder or upon the elbow when that is advanced. Violent twisting of the arm inwards has produced it, as has convulsive muscular action in a fit of epilepsy. The majority of cases of

this dislocation, when recent
are reduced by the skillful
surgeon without difficulty.
It is only where the injury
is of such long standing
that the parts have become
rigid and are beginning to
adapt themselves to their
new state, or in some of the
more unusual positions of
the bone, that difficulty is
experienced in the reduction.
The use of chloroform or ether
has now superseded all the
means formerly employed
to produce a lax condition
of those muscles, which, by

their spasmodic contraction often present so great an obstacle to the reduction. In recent dislocations, when the patient is of average size and muscularity, an anæsthetic is usually not required, at all events not until after an attempt at reduction by the usual methods has failed, and some more severe means are to be put into operation. In persons of great muscular development, and especially if more than one or two days have elapsed since the receipt of the injury, the administration

will be advisable. In very relapsed subjects, especially if it is not the first time the dislocation has occurred, it sometimes happens that a slight movement of the limb on the part of the surgeon will effect the reduction. In a recent case where little trouble is anticipated the surgeon, standing behind or before the patient as most convenient, places his left hand upon the shoulder to steady it, and with the other, grasping the arm a little above the elbow (which should be flexed

in order to relax the triceps), raises it rather above the horizontal, giving it a slight outward motion inwards combined with moderate extension; at the same time with the finger or thumb of the hand which is placed upon the shoulder the head of the bone may be pressed upwards and backwards into the glenoid cavity. In this way dislocations may often be reduced without any assistance. Without altering the position of the patient the surgeon may gain power over the humerus by

placing his foot on the side of the chair, and pressing this knee into the axilla, by which means he will get some counter-pressure against the weight of chest, and firmer leverage to raise the upper end of the humerus into its place. In the event of failure by these simple methods another plan may be tried, which has also the merit of requiring no assistance. The patient is placed upon his back, and the surgeon seats by the affected side, places his heel (the boot being removed) well up

into the axilla; grasping with both hands the lower part of the forearm and leaning himself backwards, he draws the limb steadily downwards, the heel at the same time being made to press the trunk outwards. Directly it is felt to slip back into the socket the extension should cease, and the forearm be brought across the chest. If the humerus still resists the following plan may be tried: The patient being placed on his back a broad bandage is then fixed by a clove-hitch knot to the ground some foot

above the elbow, and its ends made fast to a hook or window sill. A similar bandage is placed upon the injured arm; and by its means two or more assistants make steady extension horizontally outwards. The surgeon should now manipulate the head of the bone into its proper place. When reduction has been accomplished, the joint should be kept at rest for two or three weeks, the arm being placed in a sling, with the elbow slightly bound to the side, and all violent exercise prohibited for

several months. In cases that have been neglected it often becomes a question as to whether it is justifiable to attempt a reduction, or whether the head of the bone should not be left undisturbed. On this point the surgeon must exercise his judgment in each particular case; but as a general rule a dislocation of twelve weeks standing should be allowed to remain undisturbed.

etc. etc.

"Dislocation."

L. De L. Gorgas, D.D.S.
University of Maryland,
Session of 1882-83.

In surgery the term "Dislocation" has been restricted to the displacement of one articular surface of bone from another; and certain authors still further restrict the meaning of the term to those displacements which are produced by violence. This last restriction, however, has not yet been universally accepted, since the classes of dislocation, viz: Congenital, Pathological and Traumatic; the last class being the one in which the surgeon is most interested. A Traumatic Dislocation is a forcible separation of the

articular surfaces of two or more bones, which can only be effected by the rupture or stretching of their ligaments, and may be either partial or complete. A dislocation is said to be partial when parts of the articular surfaces remain in contact with one another, though not the parts naturally opposed; while it is said to be complete when the articular surfaces are not in contact by any part. Dislocations are also divided into, simple, when the displaced bone is not exposed to the air, and into compound.

in which there is an external wound communicating with the injured joint.

The causes of dislocation are two-fold, viz: external violence, and muscular action; the latter is, however, in the healthy state of the parts, merely the cause of dislocation, while fracture from this cause is of comparatively rare occurrence. In cases of previous dislocation, especially when the original treatment has not been sufficiently prolonged, the injury is often reproduced by mere muscular action, and then the displace-

ment is just as easily reduced. There is, however, one dislocation which is almost always produced by muscular action, that of the lower jaw, and isolocation of the patella is very commonly so caused. A complete dislocation is, in a typical case, attended with such very distinct symptoms that the nature of the injury is usually at once apparent. But in other cases, in consequence of extreme depth of the joint, of great effusion and swelling, or of complication with other injuries, it may be impossible to diagnose the dis-

location, at least in the earlier stages of the accident.

The general symptoms of dislocation are, sudden loss of motion following an injury; loss of the natural shape of the parts from changes in the relations of the muscles surrounding the joint, and from the altered position of the bones; change in the length of the limb, which in the great majority of dislocations is shortened; and absence of crepitation when the bones are manipulated. Besides the laceration or stretching of the ligaments, a variable amount of damage

is frequently injurious to the surrounding muscles, which may be torn away from their attachments, lacerated, or stretched, according to the nature and extent of the displacement. The nerves in the neighborhood are sometimes compressed or lacerated, and hence the severe pain at the time of the accident, and the paralysis afterwards of the parts supplied by those nerves. The large vessels almost always, in simple dislocations, escape without injury; but they may sometimes be compressed by the displaced

done was to obstruct the circulation in the limb. Fracture of some of the processes surrounding the joint is a very common complication. If the displaced bones be restored to their natural position all these injuries are generally soon repaired: the ruptured capsule readily heals; the injured muscles and tendons regain in a great measure their former condition and strength; and even the nerves, if not too badly contused or lacerated, may slowly recover. It may happen, although fortunately it is rare, that the joint

inflammes after reduction, even
under proper and judicious
treatment; such a complication
must be treated on the same princi-
ple as any other case of articu-
lar inflammation after an injury.
If the dislocation has been neglect-
ed, or if it has been found necessa-
ry to abandon its treatment, further
changes follow, the chief of
which is the formation of a new
joint. The head of the displaced
bone forms for itself a cavity
on the bone upon which it is
placed. This new cavity is formed
partly by inflammatory soften-
ing, and removal of a portion of the

original bone, but principally by a deposit of new bone on the surface of the ossified bone. The new cavity thus formed is found lined by a substance which under the microscope shows the structure of fibrous tissue. The original articular cavity, at the same time becomes filled with a fibroid deposit, and is finally obliterated. The head of the displaced bone is surrounded in its new position by a cyst or new articular capsule formed from the adjacent connective tissue. At the same time the displaced bone may suffer various

changes of form from inflammatory softening by which its form and size will be essentially altered. These changes take place chiefly in joints resembling the ball and socket in which the articular head is displaced on to a flat bone. In other articulations the process of repair will be much less extensive and therefore the resulting recovery of motion less perfect. Sometimes in small joints, such as those of the fingers, complete bony anchylosis may follow.

The injuries with which

dislocation may be confounded are: simple contusions and sprains, fracture near the joint, and separation of epiphyses. The diagnosis between a dislocation and a contusion or sprain is usually readily made by recognizing the positive symptoms of the former, and by the subsequent history of the case.

In a fracture besides the crepitus, when it exists, there is preternatural mobility, and the shape and length of the limb may be readily restored by extension, but

between 15 and 30 years, very rare in babies and also in the aged. [illegible] logical anatomy, the [illegible]

[illegible]

the poison enters the intestinal [illegible]

[illegible]

[illegible] anemia and a certain [illegible] of swelling of the intestines especially in the lower [illegible]

[illegible]

becomes infiltrated especially [illegible] in the neighborhood of the ileo-cecal valve; the congestion may extend to the peritoneal [illegible]

[illegible] form, either granular
[illegible] there is some parenchy-
matous degeneration in the
brain as in most all of the
[illegible]
[illegible]
[illegible]
[illegible]
The catarrh of the Bronchi tubes
[illegible]
in the dependent part of the
lungs, at the end of the first
[illegible] or beginning of the second
we have a derangement
of the nervous system
characterized by kind of
indifference on part of patient

[illegible], in the protrusion
of tongue, and [illegible]
[illegible] back in the mouth [illegible]
[illegible]
[illegible]
[illegible] contain albumen, at
[illegible]ing of second week a
[illegible]
[illegible] it the abdomen
[illegible] the size of a pea
[illegible]
[illegible]
[illegible]
[illegible] or may be scattered over
[illegible] whole body they are
[illegible] entirely absent,
[illegible]

[illegible]ion, evening exacerbation
[illegible]
[illegible]
[illegible]ximum is reached, second
[illegible]ek fever continuous, third
[illegible] it begins to remit and
[illegible] week intermits daily
[illegible]bation diminish until
[illegible]
[illegible] week change for better
[illegible]
[illegible] also complication take
[illegible]. If for better in the
[illegible]
[illegible]
[illegible]
[illegible]

is interspersed with wakefulness
[illegible]
[illegible]
[illegible]
constipation, copious
perspiration at night in this
[illegible]
[illegible]
[illegible]
[illegible]
to 106 Mortality very great
[illegible]
[illegible]
[illegible]
Mortality great In such
[illegible]
[illegible] over 10 3 in the

axilla very seldom active
delirium, hemorrhage of
intestine most common
complication, it may have a
tar like appearance it is
most likely to occur in the
[illegible] any considerable
hemorrhage is followed by
the symptoms sudden
depression coldness of surface
[illegible] faintness weakness
of pulse [illegible] of temperature
[illegible] hemorrhage repeated
recovery [illegible] place in a few
days that is the shock is recovered
from. Perforation as a cause
of death occurs very frequently.

[illegible] is due to ulceration of the bowels which extend through [illegible]

The Illium is the part of [illegible] results of perforation is shock, [illegible] cold temperature fall [illegible] caused [illegible] exhaustion, usually they [illegible] Peritonitis is set up and then the symptoms of [illegible]

this stage, death takes place in from one to four days after perforation relapses may take place, but sometime increased fever due to complication [illegible] confounded with time, surprise. [illegible], as Typhoid fever is a self limited disease it is impossible to cut it short, we find very little medicine is necessary, as good hygeine is [illegible]

[illegible]

[illegible] and without perspiration
[illegible] furred and dry, a
small dose blue [illegible] with
ipecacuanha [illegible] freedom
of [illegible], [illegible] a couple
of [illegible] or at this time Spiritus
Mindereri may be given dose
one tablespoonful every three
hours from noon until
midnight. [illegible] should
be [illegible] from the [illegible] and
continued through [illegible]
as [illegible] with
1 [illegible] every two to three hours,
[illegible]
may be used with [illegible]
every [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

dryness and heat of surface

[illegible]

[illegible]

uncovered at a time, with

tepid water and whiskey

some prefer cold to tepid [illegible]

[illegible]

[illegible]

iliac region may be treated

[illegible]

diorrhoea may be left with

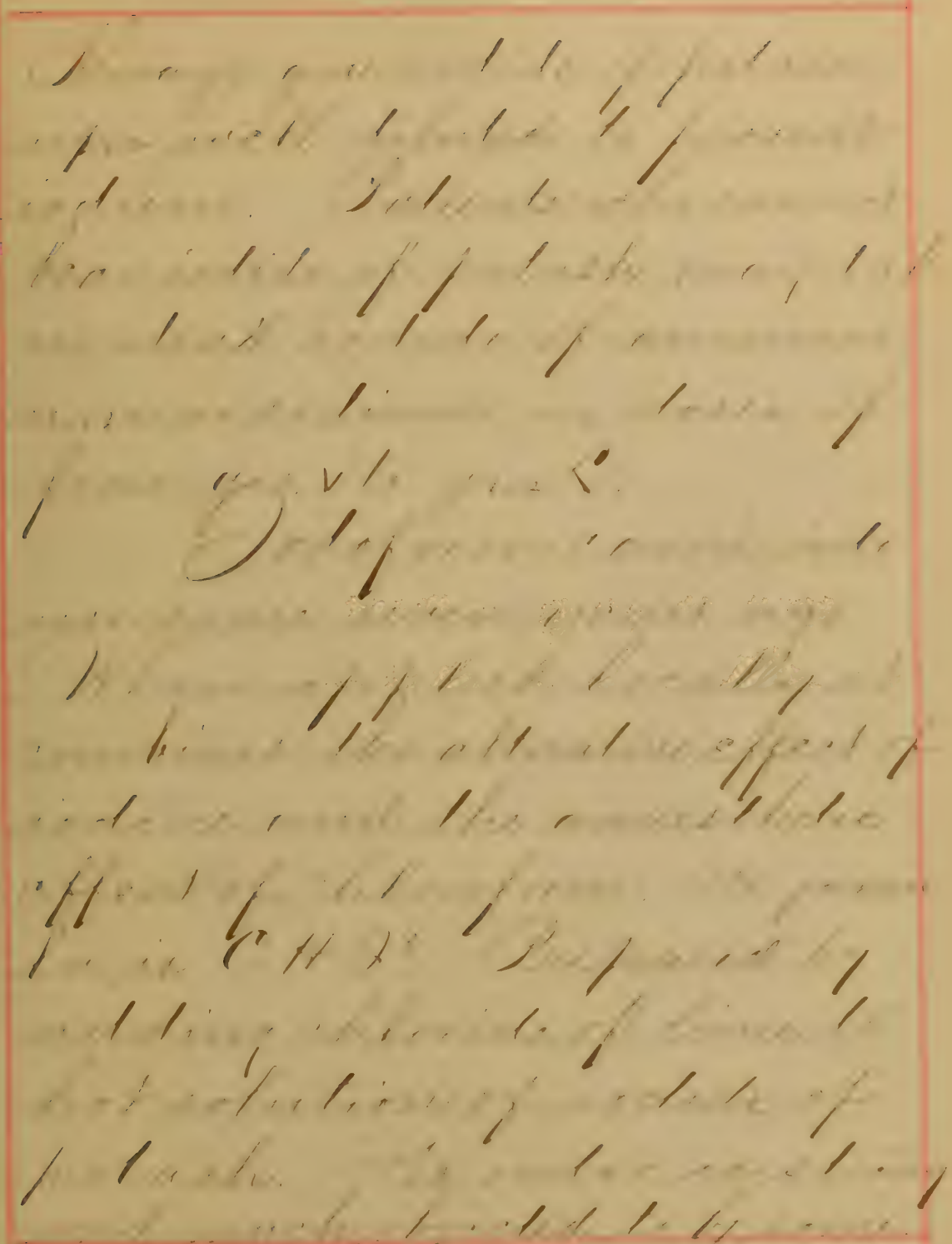
little treatments without ver

and is said to be found in the saliva
the skin, mucous membrane saliva

glass of water.

The [illegible] of [illegible] is com-
posed of [illegible] parts of [illegible]
[illegible] part of [illegible] of [illegible]
[illegible] parts of [illegible] and [illegible]
[illegible] parts of [illegible] lard
This is better than the [illegible]
for goitre for it is more easily
absorbed. The [illegible] dis-
colores the skin and is for
this reason objected to by
some females.

[illegible] of [illegible] is pre-
pared by adding [illegible] to
[illegible] of [illegible] then
[illegible] the [illegible]
[illegible] to [illegible] off oxygen
The dose is from gr. v to ʒ ii



Amer P. P. Julian

Educated Nurses.

It was a good while ago that the nursing of the Sick began to engage the attention and consideration of folks both within and without the pale of civilization. So far as could be gleaned from an industrious and earnest inquiry into the subject the first decisive step towards the establishment of a systematic plan for the management of sick people was taken ah about the close of the fourth century.

No less a personage than

Paula, a lineal descendant of the patriotic Scipios at the time just designated, considered the care of suffering humanity, an affair by no means too humble for the devotion of her grand life.
Every body who knows anything at all of Roman history, is aware of the state of society in Rome and its provincial possessions at the period of which we are speaking; of whom it was said: "they eat that they may vomit, and vomit that they may eat". It spoke well for this noble lady that she was disgusted with the festering mass of moral rottenness at home

and went to Jerusalem where she organised a society of women for the splendid purpose of nursing the sick. Lo! the name of Paula receive its merited honour!

Again, in 660 A.D. the Bishop of Paris founded the Hotel Dieu which still stands a monument to his memory and an honor to the French people.

There has since been a steady growth of attention in this direction and now all the civilized nations look upon their institutions for the education of nurses and care of the suffering as an essential

appendix of their government.
We must admit that America
has been slow to fall in line. That
must be admitted, for it is a fact.
The trinity of main American char-
acteristics ~~is~~ according to Theo. Tilton
is "hurry, flurry and
worry" but she has neither hur-
ried, flurried or worried enough
to hurry in the matter of Educating
nurses. It is a fact worthy
indeed of deep solicitude that the
energy of a blessed land that has
expended on the organization
of an American system of train-
ing schools has been but meag-
erly rewarded by the establish-
ment of a few institutions of any

ordinary capacity and limited means. Methinks, most of those people are dead who would raise their voice against the propriety and actual necessity of the universal establishment of such schools and if they are not "such a consummation were devoutly to be wished." Everywhere between the two oceans ~~are~~ stand institutions for the technical Education of men and women for the various pursuits of life. Even husbandry which was formerly thought only fit for the occupation of the "horny handed" hoosier, has been

Except in a few instances as in the case of Cato

18

consented to be worthy of the consideration of educated people. Accordingly we are accustomed to hear of agricultural schools in various parts of the country. While such serious attention has been paid the garden and the farm as to dignify them with the establishment of schools for their improvement, the lives of our dearest relatives and friends have been committed to the care of those who are totally ignorant and unfitted for their duty because they did not have proper facilities for acquiring knowledge.

on the pages of English history, there is no name we love more than that of Florence Nightingale or "Agnes Jones". We simply allude to her and her earnest labors of love to give to this dissertation a greater completeness for to blot her name from the records of the world and the history of philanthropy cannot be written. She evidenced by her personal superintendence over the wounded during the Crimean struggle that the horrors of war could be greatly modified....

In view of the honorable character of this work and the necessity

of its Systematic accomplishment we make bold the assertion that nursing should be a profession. Instead of being looked on as only proper work for menials it should come to be regarded as the proper pursuit for the best Educated people. It is only the Class of intelligence that is put into any business that distinguishes it as honorable or dishonorable. If in proper hands, even the much abused and much loathed trade of soap making might come to be regarded as an honorable calling. The nursing of the sick should be respected by other

profession, guarded by whole some law, and patronized by the intelligence of our people. If such were made the case, we would find our plagues of yellow fever, Cholera and other maladies robbed of much of their horror. It was universally conceded that the devastations of yellow fever in the South during it's latest visitations were rendered more dreadful by the scarcity of good nurses.

How can nursing become a profession or in other words how can nursing be looked on

with the same respect as the profession of physic, law, theology and journalism? Easily enough. It could become so by the organization and support of suitable institutions where the technical knowledge of nursing can be acquired. Such institutions, it is needless to add, protected by the state, recognized by the medical fraternity, fostered by the generous philanthropy of the people and patronized by those whose natural and acquired abilities qualify them for the great work, cannot fail to prove a splendid boon to the community or public at large.

Some have ventured, when speaking on this subject that the best classes of men and women could not be procured to do this work. The records of the European training schools disprove any such assertions. Some very capable ladies, having obtained their theory in these continental schools, have entered upon the work in the hospitals.

The Countess Rothenthal is the founder of the school at Dresden. By reason of her charity she was a favorite among the German peasantry and her culture was proverbial in the

circles of European royalty. The same kind of an institution located at Berlin, is, if we remember rightly, at the present time, under the special guardianship of the Queen of Prussia. If no other proof of the belief that Educated and refined people would be willing to embark in this work under the favorable conditions we have suggested, the instance of Florence Nightingale might be reiterated. Even the roses of royalty are thrown aside when Mercy and Charity plead before the throne, for the amelioration of humanity and the

mitigation of misery and suffering.

Prof. Haven is author of the utterance, that: "as a rule woman is man's moral superior: Added to that she yield not much below him in point of "inherited intelligence". These two principles of character must be combined in a person who would make a good nurse. The profession of nursing would open up a large field for the employment of a large number of good women who are anxious to embark in an honorable pursuit.

Also owing to her characteristic sympathy and tenderness woman is naturally better adapted to the management of the sick chamber than man. In the surgical wards of our hospitals and in most cases where muscular power is indicated the service of the masculine gender is preferable, but as such cases are in the minority in private practice, and ample male assistance can be provided for ~~boisterous~~ purposes in our hospitals, the work of nursing would seem to have naturally resolved itself into a woman's profession

"Even in lunatic asylums," says Prof S. D. Gross, "where one might a apriori suppose that male nurses were, from the boisterous and unmanageable nature of many of the inmates, perfectly indispensable, women are it would seem, better fitted to calm and soothe the irritable mind and to maintain discipline than men".

Dr. Chrichton Browne remarks: "In a word their whole conduct seems to be softened and their tone of feeling ameliorated by the simple expedient of introducing kind hearted female

nurses among them"

The superiority of female over male nurses has been recognized by the authorities of these institutions in England and through the efforts of Dr. Maudsley the substitution of females for males is becoming fashionable in that country. The time, it is to be earnestly hoped will come when in this country every doctor's office shall have corresponding to it, the office of a professional nurse and when every community shall enjoy the good results springing from such a system.

in setting up a standard by which the capacity and ability of the nurse should be measured we will endeavor to avoid extravagance or over-estimation of the absolute necessities involved in a position so important in itself and upon which depends so many and so vital consequences. Any one can fill at the bedside or occupy the same apartment with the patient but any one cannot be a good nurse. Special requirements are such as essential in the one who administers the medicine as in him who prescribes it.

To make the care of the sick the most beneficial to the community and protective to the skill of the practitioner, the nurse should possess many moral principles which are first and most essential to the successful discharge of her responsibility. Rudeness in any form should never find access to the sick room. Any action that tends to ruffle the mind of the patient aside from its cruelty aggravates disease and counteracts the efforts of the physician and the power of his remedial agents.

The nurse should have much of the

true spirit of kindness and be able to appreciate the situation and sufferings of the patient and in the relief of pain find a reward worthy of her best talents. A kind word often has a better therapeutic effect in the treatment of disease than the swallowing of a pill. Every nurse should be truthful. The experience of our oldest practitioners teaches us that deception on the part of the nurse is a very great obstacle in many instances to a successful result. A deceiving nurse may at times lead the best doctor into error. In the administration of medicines

the regulation of diet, the ventilation of the apartment and the general care of the patient and attention to his surroundings, truth and veracity are frequently so essential as to involve the comfort and life of the one placed under the nurse's care, as well as the professional character of the practitioner in charge of the case. The doctor must be governed largely by the reports he receives from day to day and in order that he may act intelligently, he must feel that he can place implicit confidence in such reports and employ such measures

as will meet the demands, as
set forth by the behavior and
progress of the disease during
his absence. The medicines
may be forgotten; loud talk
may be allowed in the room;
ventilation may be neglected
as the weary nurse may fall
asleep and by neglect cause
a chain of evil results; but
even such being the case a
plain, truthful statement may
frequently avert sad and irre-
parable consequences. The person
whose veracity is questionable
is unfit for a place in the new
profession.

Punctuality is a principle akin to truthfulness and lies next to it in the composition of a model nurse.

In the management of disease the time for the administration of remedies and the regularity with which they are repeated are as essential to the welfare of the patient as the character of the remedy itself. ~~Such~~ In the business world "time is money"; but in combatting disease the nurse should be taught that time is life.

Esthetic Culture forms a prominent feature in the education of one who professes to minister to the

delicate Sensibilities of the afflicted. Anything which engages the mind and directs the thoughts in a pleasant channel is well known to be decidedly productive of very beneficial results in the treatment of disease. Everything possible should be done to divert the mind of the patient from the gloomy forebodings so apt to be induced by disease.

"With Curious art, the brain too finely wrought, preys on itself and is destroyed by thought" Pleasing surroundings, such as improve the eye, in a word all the senses often direct with certain and effectual aim the Physician

remedy to the seat of morbid action. Indeed the nurse should have a pretty clear notion of the intimate relation existing between mind and body in the production as well as in the cure of disease. Self control is another characteristic the nurse should have whether innate or acquired. In hospitals and private practice it is too often the case that practitioners have to contend with baneful results arising from irritable temper, intemperance and rudeness on the part of the nurses. A notable example of this sort was furnished not long ago by a very large

hospital in one of the large western cities. By making nursing a woman's profession and by the exercise of care in licensing only proper persons, such drawbacks can in great part be remedied.

The nurse should know when to speak, how much to say and how to say it. In many instances most disastrous results might arise from an injudicious revelation of the dangers of disease and the condition of the patient. If under any circumstances it becomes necessary to break such intelligence to the patient, the attending physician is the proper

person to do so. In performing the latter solemn and melancholy duty the physician should always have in mind the truthful paradox that in all conditions of disease "Love is a source of life."

Fidelity is the next and last word I demand that we will make on the candidate for a position at the bedside and although last it is by no means least. The fealty which the nurse owes those whom she serves and the practitioner whom she represents is among the most essential requisites of her office. She must learn, if indeed she do not already know that family

Secrets are Sacred property.
The greater the intellectual acquirements, the more likely will the nurse have the moral qualifications demanded in this Capacity; the better will she be qualified to look after the ventilation, the preparation of the patients food etc. The nurse should know how to make a poultice, how to apply a bandage, and a compress and tourniquet in temporary arrest of hemmorrhage.
While we believe that anything appertaining to direct treatment should rest exclusively in the hands of the practitioner, yet we

See no reason why the process of blood letting should not constitute a part of the nurse's Education to be put into requisition when the nature of the circumstances may demand. ~~Such~~ She should certainly understand the local abstraction of blood by the leech and cup and the conditions under which the use of such remedies is justifiable. The dressing of blisters, wounds, etc, forms a very prominent feature in her daily duties at the bedside and must receive a large degree of consideration in her preparatory course of study. In the lying-in Chamber

the services of an intelligent, well trained nurse ~~is~~ are so much appreciated and in her entire curriculum of duty there is no place in which her intelligence and skill find a more ready market or a higher price. The practice of midwifery has been cursed long enough by a class of women, who set themselves up as specialists in this most important and delicate department of our profession. This imposition on the public credulity and the dignity of the legitimate profession could be largely modified or entirely eradicated by the properly educated

nurse. In this department alone the nurse will find a wide field for her professional study. Two lives are now in her hand instead and done of the most serious results dependent upon her careful and intelligent management. With this consideration of the subject we leave it, hoping and expecting that the establishment of training schools for the education of nurses will at no distant date become general throughout America.

R. M. Sands.

emanate and night scavengers who are regularly imbaling foul odors, showing symptoms of Malarial fever — which however is [illegible] to be the case.

There must therefore be a poison of a specific nature present in bad air which can originate the phenomena observable in this fever.

The conditions necessary for their production are heat, moisture and decomposing vegetable matter, exposure to the air being indispensable to the effect to be produced.

These requisites are found at certain seasons, spring and especially fall, in marshes and low undrained bottom lands, in badly drained uplands and even in rocky declivities and mountain tops wherever there may be a broken surface soil admitting moisture to an

impermeable strata beneath.

For many centuries, including the classic days of Horace (who, if my memory is not at fault makes mention of the Cold Quartan Ague) the poison of Malaria was supposed to be a gaseous Miasm from decomposing vegetable Matter.

Various theories have been from time to time advanced and combatted but no definite advance pointing to the true origin of this poison had been made prior (as far as I know) to Salisbury in our own country who has propounded a theory based upon his investigations that the poison of Malaria was a living organism of a low type an Alga, which gaining access to the system, was capable of reproduction and thus growing give rise to the phenomena of the fever.

Its periodicity may be rationally accounted according to their theory as an effort of nature to rid itself of the poison accumulated by the reproductive presence of this little parasite.

Salisbury found in the sputa of the sick certain little cells which he placed upon glass plates over upturned marshy soil. By simply introducing to sleeping apartments the fresh earth from around these plates he was enabled to bring on unmistakeable attacks of the fever.

Thirteen years later (1879) Klebs and Cecidoli have thrown additional light on this obscure subject tending to confirm the views advanced by Salisbury.

They claim that the origin of the poison is what they term a Bacillus, a very minute

rod-like organism, which makes its way into the alimentary canal, and thence to the blood.

This theory is now generally accepted by Pathologists though there is still wanting much to elucidate the life history of this germ.

The old theory that Malarial poison is the result, in a gaseous form, of the decomposition of vegetable organisms such as Carbonic acid, gas, Carburetted hydrogen etc, seems to be upset by the fact that some marsh lands, having all the conditions necessary for the production of the fever are known to be healthy though surrounded by districts notoriously unhealthy.

Again—the vagaries, if I may so call them, of Malarial fever—

such as appearing in certain localities, for a time and then disappearing, permanently as has been the case along the course of the Juniata River in Pennsylvania, and the reappearance in the Berkshire Hills, in New England, after many years of absence — would seem sufficient to reject the old theory and prove the necessity for, and actual existence of an adequate generating source of origin not furnished by the old theory. Under it it seems very difficult to account for the fact that localities which were healthy when inhabited, became intolerably unhealthy and unfit to live in after being totally abandoned for a length of time.

Thanks to the laborious and learned

investigations of Salisbury, the American and later still, to the close researches and scholarly experiments of Klebs and Ceudeli, the world of science of today stands on an acceptedly sure and solid foundation upon which to base their closer and deeper researches which will in time dispel the mist that envelopes this important subject and fully and clearly demonstrate the truth of the theory of Klebs and Ceudeli that the origin of the poison is the Bacillus Malariae

Thesis.

Medical Dissertation

M.D.

James C. Littleton

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Diphtheria.

In considering the subject of Diphtheria I shall divide the subject into 1st Definition 2, Nature and causes, 3 Anatomical characters 4 Symptoms, 5. Diagnosis 6 Prognosis 7. Treatment.

1. Definition. Diphtheria is both a contagious and an infectious disease characterized by inflammation of certain mucus surfaces, especially the fauces larynx, trachea, and nares; the most characteristic phenomena of which consist in the formation of a false membrane or follicle on any of the parts named or upon any excoriated or wounded part of the skin or mucous membrane: accompanied also by the rapid development of anaemia and extreme debility, and Characterized also by the supervention of temporary paralysis during convalescence.

2. Nature and causes. Diphtheria is evidently a disease of great antiquity, having been described under various names by many authors, but it seems to have been known by its present name since the date of the writings of Bretonneau, about the year A.D. 1826. He described it as "Diphtherite" since modified to Diphtheria. There have been

numerous epidemics of the disease in Europe and in this country, the last serious one in Europe occurred in France in the years 1855-6-7 and was imported thence into England, and probably thence to the United States It has been considered by some writers as identical with Croup. Bristowe argues that "Between the characteristic forms of croup from which the classi-cal name of the disease is taken and diphtheria there is no essential difference" But there are others who think that the question is by no means settled as the above extract from Bristowe would seem to indicate. Some of the differences between the two diseases being as follows. 1 Diphtheria begins generally in the fauces while Croup begins in the Larynx or Trachea. 2 Diphtheria is contagious, Croup is not. 3 Diphtheria is a constitutional disease, while Croup is Local. 4 Diphtheria generally assumes more of an asthenic form than Croup. Diphtheria is a disease of all climates and of all seasons, and affects both children and adults, but it is much more common in children, a considerable majority of all cases occurring according to Smith between the ages

of two and ten years. Until a child arrives at the age of one year it seems that the younger it is the less liable to the disease, and it hardly ever occurs earlier than the fourth month.

It seems that the sanitary condition of houses, or of certain localities, as well as the general health, cleanliness &c of the inhabitants has something to do with the spread of the disease: still it is difficult to say what conditions of disease or what forms of uncleanliness are most likely to cause its spread, as it sometimes attacks those who are apparently in the best of health and the well clothed and well fed, while those more sickly and not so well cared for escape entirely.

As to causes Diphtheria is undoubtedly Contagious, the introduction of a case into a house or a hospital is almost always followed by an outbreak of the disease among the inmates of the house or hospital and it has been known to be conveyed by fomites, hence we should never allow any of the vessels such as cups or spoons, or towells napkins &c, which have been used by the Diphtheritic patient to be used for or by any other member of the family

The disease may be carried also by the atmosphere, or imparted by inoculation. There are cases on record in which physicians have lost their lives by a small particle of the sputa of a diphtheritic patient being coughed or spit into their mouths, it no doubt coming in contact with some abrasion or excoriation of the mucus membrane of the mouth or throat and thus found its way into the blood. The period of incubation is not very accurately known, sometimes the patient takes the disease within a few hours after exposure to the virus and in other cases they do not take it for six or eight days or even longer; the incubative period probably extends from a few hours to eight days, or occasionally beyond that period.

Diphtheria resembles in certain particulars Scarlet fever, Small-pox, Erysipelas, and Typhoid fever. It resembles Scarlet fever in the duration of the period of incubation and by varying from a very mild to a very malignant form. It resembles Small pox in being communicable by the air, or by inoculation. It resembles Erysipelas in the variable extent of its duration, and the fact that one attack does not protect the patient

from subsequent attacks. And it resembles Typhoid fever in the fact that it is not only communicated by inoculation, but may be produced by noxious exhalations such as Sewer gases.

Recent investigations by the microscope tend to show that diphtheria may be caused by the entrance into the system of low forms of vegetable parasites; these parasites which have been found in all the tissues attacked by the diphtheritic inflammation, are endowed it seems with life and the power of motion, and it is believed by certain microscopists Eberth, Klebs and others that in the commencement of the disease the small grayish white spots that form, consist of these Bacteria or micrococci, and that the pus appears later as the result of inflammation. They have endeavored to prove this by various experiments upon the lower animals, and they report that wherever they inoculated the mucous surfaces of animals, or the cornea, or even the muscles with diphtheritic matter, two kinds of these parasites were found in abundance viz. the Sphero bacterium and the micro bacterium. But the nature and causes of any

disease cannot be determined from the results of such experiments as those named above, but the experiments must be taken in connection with clinical observation, and from observations made by Smith he is led to believe that the true cause of diphtheria is not the bacteria, but that the cause is some thing not yet discovered; that a deteriorated condition of the mucous surfaces furnishes a nidus in which these organisms grow and multiply and flourish, his idea seems to be that these bacteria may be, and doubtless are agents of infection or carriers of the disease, but not the specific cause. Multitudes of these low organisms may enter the blood and produce the toxaemia of diphtheria, but the paralysis which is a characteristic sequel of diphtheria would seem to be a proof that they are not the causative agents, as in other diseases in which bacteria are found there is no special liability to paralysis.

From these observations it seems that Diphtheria is essentially a constitutional disease from its first inception, in further proof of this it may be noticed that most diseases which have a considerable incubative period

are constitutional, another fact is the occurrence of constitutional symptoms before the inflammation makes its appearance and still further evidence is furnished by the state of the kidneys; it being well known that albuminuria and nephritis are usual accompaniments of diphtheria, and any thing that proves that the kidneys are affected must be prima facie evidence of the poison or virus, whatever it is having entered the system.

3. Anatomical Characters. There is always in the beginning of the disease some redness of the mucous surface, generally it is the faucial membrane that is affected but if there is already inflammation of some other mucous surface, or any abrasion of the cutis, the specific inflammation may and generally does make its appearance upon these parts. The glands about the angle of the jaws are found swollen and the tonsils red and swollen and all the adjacent soft parts partake to some extent of the inflammation but though this is the general appearance sometimes the parts are a deep red, sometimes a dusky sort of red color and this latter condition seems to indicate a poisoned condition of the blood. This is followed by the

formation of a membrane, sometimes in a few hours, and at others after an interval of two or three days. The membrane usually commences with a small patch or spot upon the tonsils and this gradually grows firmer and thicker until it becomes the well known pseudo membrane, this may be white or gray or of an ash color, usually the whiter the membrane the more favorable the prognosis. The inflammation may at this point subside without spreading much and the patient make a rapid recovery or it may go down into the oesophagus reaching even to the stomach. or it may go up to the nares extending throughout the whole nasal cavity and even through the lachrymal ducts to the conjunctivae; or it may spread over the mucous membrane of the larynx or trachea, reaching even to the bronchial tubes. In some cases the diphtheritic pellicle appears upon other mucous surfaces as the vulva, vagina, glans penis, or foreskin, or upon any excoriated or ulcerated part of the cutaneous surface. This false membrane may be comparatively loose, or it may adhere very closely to the surfaces, but it generally adheres firmly and

cannot be easily detached and if you attempt to remove it you will lacerate the capillaries of the part and thus produce profuse hemorrhage. The membrane is usually not very thick say about 1/8 to 1/16 of an inch, and is often firmer and more adherent in one part of the same membrane than in others.
There can always be found these Bacteria or microci in the substance of the pellicle if it is examined with the microscope. The membane seems to be incapable of any higher organization, the only change it can undergo being putrefaction or decomposition.
Diphtheria of the air passages is one of the most common as well as one of the most fatal forms of the disease the membranous inflammation generally extending from the pharynx to the larynx, or it may make it appearance first in the larynx and trachea.
From the observations of various authors the exudation of diphtheria seems to consist of a fibrinous net work of cells containing leucocytes, mucus, nuclei &c.
The occurrence of inflammation in the oesophagus is not very common and its chief characteristic is difficulty in deglutition. The occurrence of the

pseudo membrane in the nares is common and though attended by discharge of mucus and pus which renders it very unpleasant and inconvenient to the patient it is not of itself very dangerous except to a nursing infant in which case it interferes considerably and sometimes seriously with lactation. In some cases where the membrane is deep so that the lymphatics and blood vessels are in close relation with it we may have Septicaemia but it is difficult to distinguish Septic from ordinary diphtheritic blood poisoning.
Bronchitis sometimes occurs as an accompaniment of diphtheria usually simple but sometimes pseudo membranous.
The blood in severe cases is darker than natural but as to what chemical changes it undergoes but little seems to be known but according to some writers there seems to be a diminution in the quantity of fibrin as well as an excess of the white corpuscles.
Diphtheria seems not to affect the nerve centres much, though some observers claim to have found degenerative changes in some nerves which have been affected with paralysis. When the air passages are affected we may have collapse and Lobular pneumonia.
The spleen sometimes becomes softened

and somewhat enlarged but this is not a constant occurrence. The Kidneys are generally affected and albuminuria is a pretty constant and characteristic symptom In the albuminous urine may generally be found hyaline and granular casts, and this inflammation of the kidneys may begin at an early stage of the disease, but generally occurs as one of the later phenomena it occurs in almost all fatal cases.

4 Symptoms. The symptoms vary considerably and generally do not bear any proportion to the gravity of the attack. the general symptoms may be said to be those of slight fever, there may be distinct rigors. If the patient be examined on the first appearance of the fever there will be usually some tumefaction of the fauces and congestion of the tonsils or soft palate or of all these parts The disease sometimes sets in with vomiting and convulsions there is generally headache, tongue coated cervical glands tonsils and fauces swollen, often emitting a putrid odor. The symptoms are sometimes greatly out of proportion to the attack which follows, some cases which are ushered in by the most severe symptoms terminating in speedy convalescence, while in others the invading symptoms are very slight, and the disease soon assumes a very malignant

form. The fever which the patient has at first usually abates somewhat and as a general rule is not very high, in some even severe cases the temperature may be not much above the normal though in some other cases it may rise to 106° or 107°.
About the second or third day the membranous deposit forms upon the mucous surface, this is generally white or yellowish but may be brown or grayish, but a dull white is the predominant color it generally adheres closely to the mucous surface beneath, and if removed will cause hemorrhage. the exudation generally extends from behind forward the lips and nails may be blue from impeded circulation. The glands about the neck are generally swollen. the disease sometimes involves the eyes and often leaves some opacity of the cornea.
The urine is almost always albuminous and in some cases there is haematuria. Sometimes we have delirium, though this is rare and generally forebodes a fatal result.
The tongue is generally furred, and there is frequently vomiting at the commencement of the disease, and if this cease it is a favorable sign, while if it persist it is generally due to uraemia. The appetite varies but generally it is not

very good. The stools are not much change from the natural, except as they may be affected by the medicines given.
The urine deposits urates upon cooling and if upon examination by the microscope the hyaline and granular casts mentioned above be found it generally forebodes a fatal result, in most cases that recover, these casts are not found There is a kind of rosevlar ruption that occurs in some cases which is slightly raised like measles, disappearing on pressure and is generally an unfavorable symptom.
Paralysis is sometimes described as a symptom and sometimes as a Sequel it generally comes on during convalescence two or three weeks after the disappearance of, or rather the abatement of the inflammatory symptoms, but in some cases it may [illegible] earlier during the inflammatory stage. The part earliest and most frequently affected are the muscles of the larynx the soft palate &c. the patient who had regained his voice begins to speak with a nasal twang, and when he attempts to swallow foods or liquids a portion of it will find its way into the larynx or nares. It is to be remembered too that the Sequelae such as

paralysis bears no relation to the severity of the attack which precedes it; thus some cases in which the inflammation of the fauces or other mucous membrane has been very slight are followed by the most severe form of paralysis, while others where the inflammatory attack has been very severe are followed by very slight paralysis. Next to the parts mentioned above, the parts most frequently the seat of paralysis are the lower extremities, the patient begins to feel a tenderness and tingling of the surface, and this is followed by a gradual loss of power of the muscles of the parts; then the upper extremities may be attacked in the same manner and it may proceed to the muscles of the trunk; the intercostal muscles and the diaphragm may become paralyzed and it may go so far as to affect the rectum and bladder. The paralysis commencing in the fauces may spread so as to involve the muscles of respiration and of deglutition, or even the lungs and heart. There may be a loss of smell or taste, or deafness may result. The eyes too sometimes suffer severely, squinting, and loss of adjusting power

owing to paralysis of the ciliary muscle and occasionally amaurosis may result, but all these affections of the eyes are generally relieved as the system returns to its healthy condition.

In some cases instead of paralysis we may have hyperaesthesia and neuralgia. Though the paralysis may be very annoying or even alarming to the patient, it is rarely dangerous, yet some writers hold that that it may attack the nerve centres in the medulla oblongata, or the heart and thus prove fatal, but most of those attacked with paralysis ultimately recover, generally regaining the use of the paralyzed parts after a period of a month or two. There are different theories as to the etiology of the paralysis. Brown Sequard thinks it is due to "reflex irritation" but it seems to be now generally understood or thought to be due to those degenerative changes which take place in the peripheral nerves by which their axis cylinders become filled with a kind of granular matter instead of the proper nerve tissue, or this granular matter is found to become imbedded among the nerve tissue

5 Diagnosis. We can generally make our diagnosis readily after the disease has existed for several hours or a day or two at furthest as the characteristic pseudo membrane will be found on the fauces. But it is sometimes difficult to diagnose it from Follicular Pharyngitis. both begin with fever, but the fever of follicular pharyngitis is not so persistent as that of Diphtheria and the exudation occurs as little rounded white masses over the follicles and do not occur in patches like the membrane of diphtheria. It may be difficult to distinguish from a disease called faucial Erysipelas both diseases are severe but faucial erysipelas is unlike diphtheria in the fact 1st there is difficulty of deglutition from the beginning. 2d there is no enlargement of the cervical glands. 3d there is no false membrane 4th It is not a frequent disease.
Diphtheria may be diagnosed from Scarlet fever by the absence of eruption and the strawberry tongue and desquamation of cuticle. the exudation may repeat itself in diphtheria, while in Scarlet fever it occurs but once which is during the stage of invasion. from laryngitis it may be distinguished by the condition of the lymphatic glands of the neck which are

more tumefied in the latter. The occurrence of albumen in the urine as well as the history of the case will aid us in making our diagnosis, but it must be admitted that in localities where diphtheria is prevalent it is sometimes difficult in practice to diagnose Diphtheria from croup. i.e. membranous Croup. but there is generally more swelling of the glands in diphtheria, and the fact of its being generally epidemic in character, so that there will be some history of contagion, so that generally speaking the diagnosis is not very difficult.

6 Prognosis. The disease presents great difference in type and severity hence the prognosis is uncertain. All cases are grave and the mildest may terminate ultimately in the malignant form and hence fatally, as we should always be guarded in our prognosis the uncertainty of prognosis is increased from the many ways in which the disease may terminate fatally. Death may result from blood poisoning, or from obstructive Laryngitis, or from Uraemia, or from Sudden failure of the heart's action due to anaemia or feebleness, or it may result from congestion and oedema of the lungs due to weakness of the heart, or to paralysis of the respiratory muscles.

Among the symptoms that render the prognosis unfavorable may be mentioned, hemorrhages, abundant albumen in the urine containing hyaline or granular casts, extreme dyspnoea and irregular pulse, vomiting and repugnance to food, obstructed respiration &c. the disease in its severest form may last from one to two weeks while recovery may take from one to three months.

T. Treatment. There have been many different theories as to the cause and nature of diphtheria, hence various modes of treatment have been suggested. The germ theory has induced many physicians to resort solely to the employment of germicide or antiseptic remedies such as Salicylic acid Bromine or Bromide of Potassium, carbolic acid &c. but however beneficial may have been the use of such remedies applied locally, there is no doubt that general constitutional remedies are much more reliable.

Isolation in the first place should always be insisted upon as the best preventive and the general treatment may almost be summed up in the employment of good food Tonics, and stimulants. If there is constipation give a mild laxative but do not purge under any circumstances. very good results have been obtained by

the employment of alternate doses of Sulphate of Quinia, and Chlorate of Potassium & muriated Tincture of iron combined, together with small doses of Corrosive Chloride of Mercury say 1/32 to 1/16 of a grain. If there is high fever Quinine seems to act very well. In the first stage of the disease if the patient is not too weak it may be well to give an emetic, as alum ℥i or Syrup of Ipecac. If there is a tendency to diarrhoea you should stop it at once And for the Albuminuria Tannic acid and diluent drinks. The citrate of iron and ammonia alone or combined with carbonate of ammonia has been used after the inflammation has abated considerably.

The tonics should be continued until the patient is well advanced toward recovery; and as the disease is characterized by extreme debility, stimulants as Brandy, or wine should be given freely.

Local Treatment. We should never attempt forcible removal of the pseuds membrane nor should we apply substances too irritating to it, and the use of any rough instruments for making the application should be avoided all applications should be made with a camels hair pencil, or with the atomizer.

one of the best applications locally is Carbolic acid and lime water. Sprayed on with a hand ball atomizer, Chlorate of Potassium

Lactic acid, and Pepsin are also solvents of the pseudo membrane. Nitrate of Silver has been applied grs x to xx to Aqua ℥i.
or the Liquor Ferri Subsulphatis, Glycerine, & carbolic acid may be used. If the nostrils are affected Professor Wm T. Howard uses a solution of Sulphate of Zinc about grs iii to Aqua ℥i
If the patient cannot eat, some nutritious substance must be given per rectum, and after injection it is better to put a compress over the anus, to prevent its escape.
If the patient is threatened with suffocation owing to obstruction of the Larynx, Tracheotomy should be performed, and it is better not to wait too long, as the reason this operation very often fails to save life is because it is deferred until it is too late, hence it is better to perform the operation too early than to wait a minute too long.
In severe cases the inhalation of steam is often beneficial; And the use of tonics must always be continued until the patient is well advanced toward convalescence.

Yours Truly

Jas. E. Littleton

Balt, Feb. 6 1883.

Bloodletting.

A great change has taken place within the last four years in regard to this measure in the treatment of acute disease. Instead of being the one agent (remedy) in the management of almost all complaints, it is now the agent least employed. Perhaps. Without doubt the lancet as a remedial agent has been greatly abused, and has justly been laid aside in many cases in which its use would have been thought indispensable forty years ago. But has not reaction gone too far? Are not medical practitioners use less efficient measures in some cases? Are not diaphoretics saline and diuretics now used, when the more prompt effect produced by venesection would be to the patients advantage? In the majority of cases demanding depletion these measures are amply sufficient, but in some the indication is for the more prompt and powerful agent. The question comes up - what

are the effects of bloodletting? Roughly they may be said to be to lessen the quantity of blood for a time, and to impair its quality. The first effect mentioned is very obvious, and the second is hardly less so. When a certain amount of blood is lost, immediate absorption takes place sufficient to replace the fluid lost so that the bloodvessels are as full a short time after a bleeding as they were before it. And it is necessary that this should be so for without equable pressure the systemic actions could not be carried on and supported in their integrity. But this fluid which is absorbed is not blood. The vessels take up whatever they can find, whether it be water from the alimentary canal or from the air, or whether it be the various albuminous and saline fluids existing at all times in the body. But water, salts, and albumen are by no means blood. They replace the substances of like nature which

were lost in the bleeding, and the ordinary amount of fibrin is soon formed, but the most important element of all is still wanting — namely the red corpuscles. They, requiring as they do a complex process for their formation, are much longer deficient. That this is so may be readily seen from the paleness and translucency of the patient's tissues, which persists for a considerable time. We may say then, that the permanent effect of bloodletting so far as there is any permanent effect, is the impairment of the blood in quality; and that the immediate effect is to lessen the quantity, but that this is soon obviated; and that, finally, the blood containing more of the watery elements in proportion to the others, is not able to supply influence and nutriment to the tissues, as well as before the bleeding.

These are the more obvious results as regards the blood; what then

are the results of these changes upon the general system?
The first phenomena noticed upon venesection, or other loss of blood, are paleness of the surface, diminution in the force and fulness of the pulse, and reduction in the temperature of the body. The greater the loss, caeteris paribus, the more marked do these effects become. till the pulse is scarcely felt; the respiratory acts become proportionately diminished; the lips face and surface generally become more and more pale; the skin is cool; giddiness, languor, muscular weakness, nausea, confusion of the mind, and faintness come on; and finally syncope takes place, during which there is entire suspension of all the obvious functions. The amount of loss requisite to the production of this effect is very various in different persons in health and in the same person at different times. Syncope from loss of blood may be attended by convulsions

attacks, which when they occur are exceedingly unfortunate as they tend to obviate the good justly expected from the bleeding. In examining some of the plainest effects of bloodletting this occasional effect cannot be entirely omitted.

These convulsive symptoms do not, I think, contradict the idea, that the influence of bloodletting is essentially sedative, but rather serve to enforce that opinion, for these, like many other nervous disorders, are due, probably, to a depressed, as often as to, an excited state of the cerebro-spinal system. The following seems to me to be a plausible explanation of the cause of the condition.

All the functions of the system require a certain amount of blood for their due performance. This blood must be of good quality, or the quantity must be proportionately increased. Now the blood after a copious bleeding is

not of the quality, and hence if the quantity sent to the organs is too small to supply this deficiency, there must inevitably be a call for a better supply. Nature has established a relation between all parts of the body. Through the nervous system of such a kind that a deficient supply of blood for the proper functioning of an organ causes an impression to be conveyed from that organ to its respective centre, by which the centre is excited into more powerful action. Now if the impression is strong the centre is not infrequently much disturbed. As the result of such excitement and demand for better blood an influence is carried to the heart and possibly to the respiratory system, by which the former is made to supply more blood and the latter is enabled to better prepare it for its office. But the centres which send

The influence are perhaps acting irregularly. and the consequence is that the heart acts irregularly too. And again. the blood has been impaired in quality by the bleeding and is therefore not competent to supply the demands made upon it in any ordinary amount, unless the functions are correspondingly lowered in activity. If this does not happen what have we to expect? The heart is stimulated through its nerves to supply still more blood to make up for the blood's deficiencies in quality. The centres now become over-excited (suffering they were not so before) and in consequence act irregularly, and signs. more or less marked, of disorder are manifested.

Violent palpitation of the heart, great frequency of the pulse. dyspnoea. headache neuralgic pains in various parts of the body, wakefulness, &c., are some of the disorders brought about.

The cause of this indirect excitement

is a want of due accordance of the functional activity with the diminished nutritive capabilities in the blood. If the functions continue as in health, it is evident that the disorders will be in proportion to the degree of impairment of the blood. Thus, if the patient continues to think as much and as profoundly, & to eat as much, or if he, be thrown into any strong state of excitement, &c., the deficiency will be more strongly felt, and a correspondingly disordered condition will be brought about. If, on the other hand, the patient be kept at rest, and care be taken that the various functions be reduced in activity in proportion to the amount of blood lost, and the mind be forced to participate in the repose of the body, no secondary excitement or disorder need be feared. These facts serve to make the need of care more apparent, for such excitement

would, as before remarked, go far to counteract any good derived from the bleeding. Not only should care be taken in respect to the amount of blood drawn being no more than sufficient to produce a suitable impression, but it should be exercised in the avoidance of the production of those secondary effects by influence on the part of the patient. Bleeding differs from depletion by other means, in that it removes not only the watery, but also the corpuscular elements of the blood, whilst diaphoretics, purges, &c., only remove the former. It lessens the stimulating and nutritive principles, and at the same time lessens the bulk. Its effects are more or less lasting; those of other agents are more easily obviated. Are there not some conditions in which an agent of this kind is especially applicable? A few shall be mentioned.

first in inflammation. for it is here that it shows its greatest efficiency.

In the earlier stages of inflammation we have these conditions present among others. There is an excess of blood in the part which sustains the irritation already produced; the nerves of the part are irritated: and we may suppose that the blood itself is abnormally stimulating. Now this measure is calculated to diminish the excess of blood in two ways;— it lessens the actual amount of blood in the body, and also the force and frequency of the heart's action, and hence the the rapidity of the blood flow. In this way also we may be moderately certain that the irritation of the nerves is lessened. This irritable condition is partly at least caused by pressure. Now if the pressure is removed as it

is by bleeding. The irritability naturally disappears. and the arteries contract The blood is, perhaps, too stimulating, and it is the red corpuscles which are the stimulants. By the use of the lancet these ~~b~~ bodies are diminished in number, and the stimulus which they supply is diluted, as it were, by the absorbtion of water, albumen &c. Besides this the blood's stimulating effect upon the brain and great organs is greatly weakened, and this must constitute one of the causes of its great therapeutic value. Bloodletting is not called for in every inflammatory condition by any means but it is called for in those diseases in which the inflammation is so severe, or so situated, as to threaten serious consequences unless there be some decided contraindication. When the inflammation is situated

internally, occupying the peritoneum, for instance, this measure is I believe often called for even though the appearance of the patient seems to contraindicate. In peritonitis the pulse is small, quick and "thread-like"; the blood and nervous force seem to be concentrated in the diseased part: the skin is cool: collapse seems imminent. Even under these circumstances bleeding is most beneficial in a certain proportion of cases.

In vascular irritation or congestion venesection exercises a most happy influence. It acts here upon the same principles as in inflammation, of which this condition is but a stage. It is indicated especially when the congestion threatens to injure some important organ, or to eventuate in hemorrhage. Such a state of affairs is not infrequently present in the brain, lungs, liver and still more often I have no doubt in the spleen.

In Pneumonia apoplectic effusions are certainly some other agent upon which so much dependence can be placed. We may promise in its use in such cases prompt relief and comparative safety for a time at least.

In some cases of fever there is a condition not unlike that first mentioned. The febrile movement is often attended by a local inflammation, which endangers possibly, some organ, which by reaction upon the system it serves to increase the existing fever. Here the lancet would be of use just as much as if no fever existed. In an instance of this kind the measure is not aimed at the fever directly, but at the local inflammation, an irritation which may be either the cause of the fever, or the effect of it. In the treatment of nervous symptoms dependent upon congestion it relieves the engorgement and cures the complaint.

I shall mention one other condition

before closing this necessarily unfruitful paper, in which bleeding is particularly calculated to do good.

This condition is oedema of the lungs consequent upon active congestion when it is so great as to require the utmost promptness in its treatment in order that the patient may not die from apnoea.

Here the power of bringing about partial absorption comes into play and by causing some of the fluid to be taken up in this way we may prolong life until such time as the use of other less severe measures can be of service.

Many other things might be said of bleeding in its favor, but I have already said enough to convince myself at least that properly employed it may do much good, and unproperly employed it has, like everything else done harm.

S. P. Bond